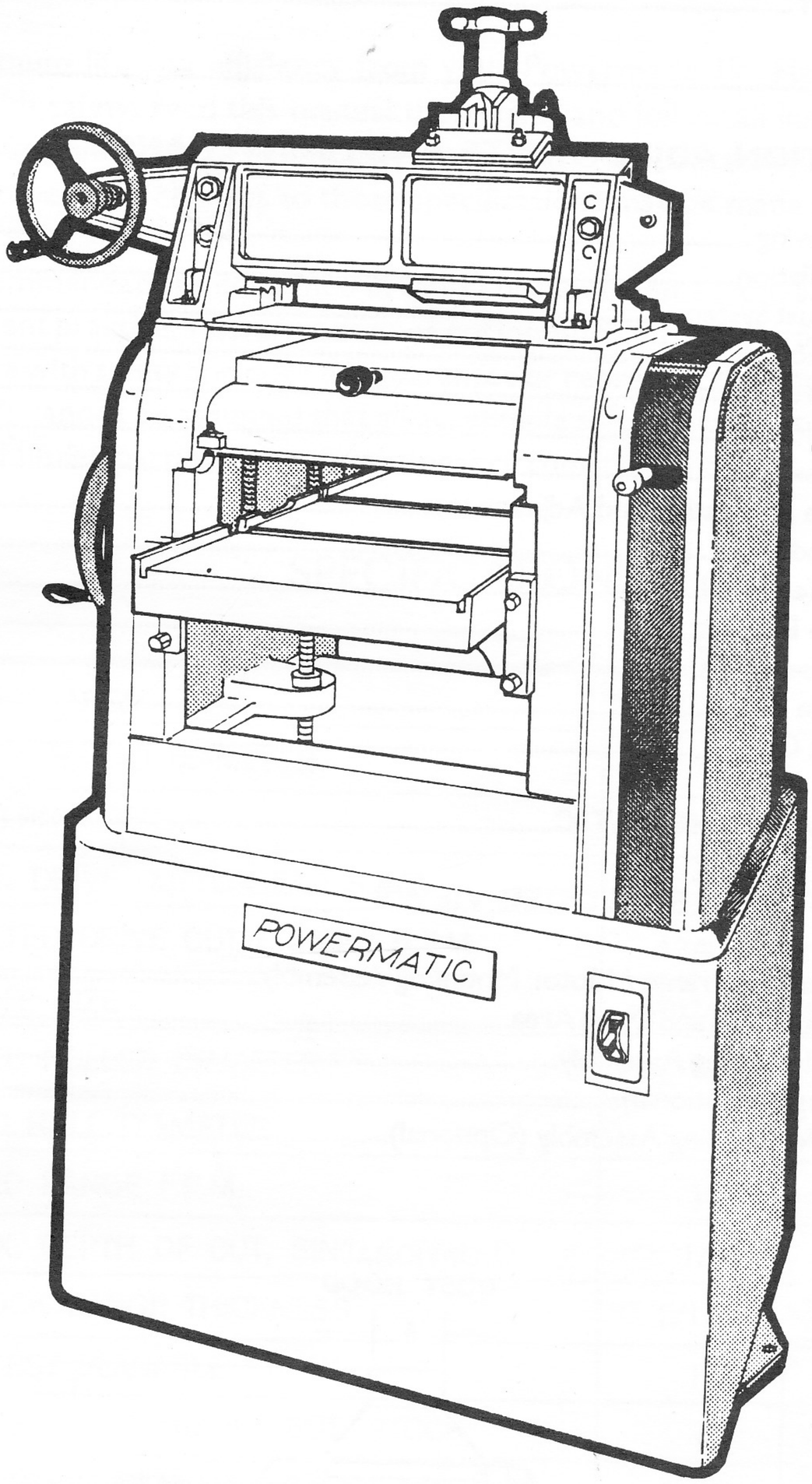
MAINTENANCE INSTRUCTION AND PARTS LIST



Model 100
12" Planer

Better By Design™

POWERMATIC®
McMINNVILLE, TENNESSEE 37110 □ AC 615-473-5551

TABLE OF CONTENTS

Page

FOREWORD 3

SPECIFICATIONS 3

WARRANTY 4

SAFETY 5

INSTALLATION, ADJUSTMENTS, AND MAINTENANCE 7

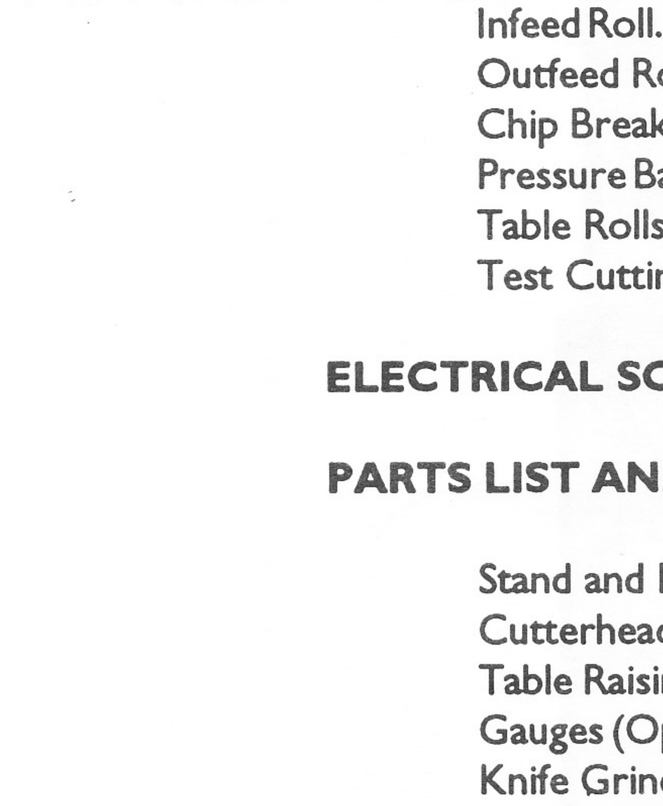
- Receiving 7
- Installation 7
- Exhaust System 7
- Inspection 7
- Before Operating 8
- Lubrication 8
- Planer Table 9
- Knife Installation and Adjustments 10
- Infeed Roll 12
- Outfeed Roll 13
- Chip Breaker 13
- Pressure Bar 14
- Table Rolls 15
- Test Cutting 16

ELECTRICAL SCHEMATIC 17

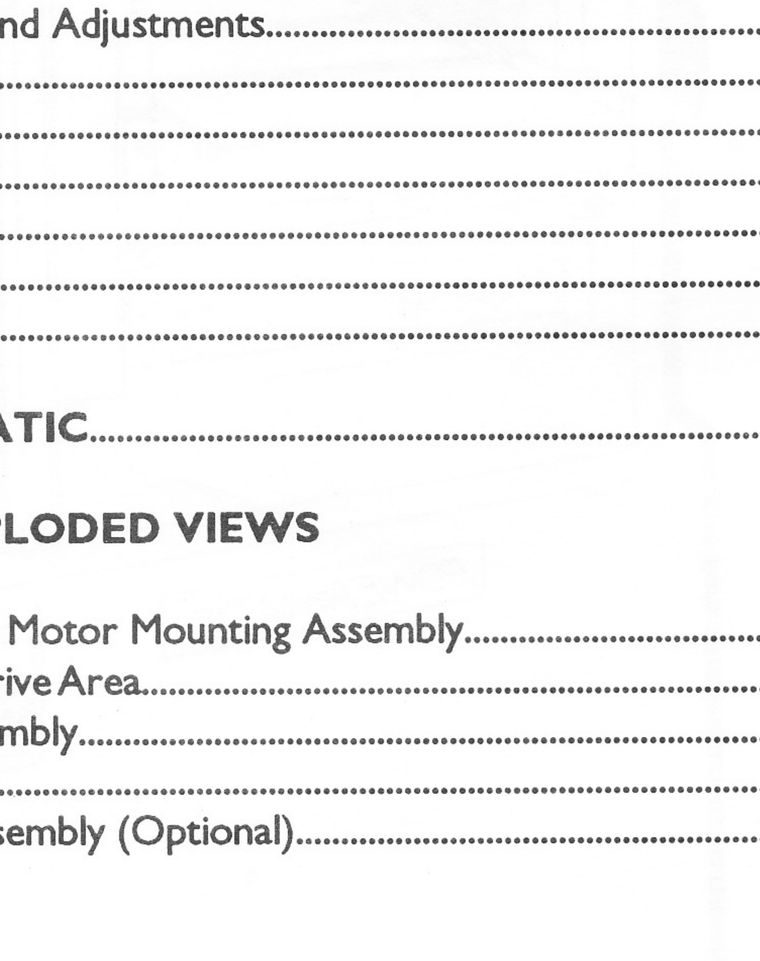
PARTS LIST AND EXPLODED VIEWS

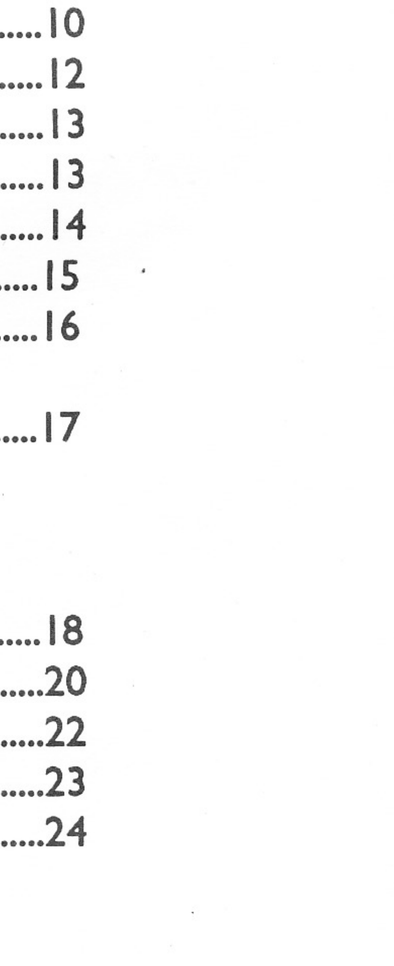
- Stand and Frame / Motor Mounting Assembly 18
- Cutterhead and Drive Area 20
- Table Raising Assembly 22
- Gauges (Optional) 23
- Knife Grinding Assembly (Optional) 24

OPTIONAL
KNIFE GRINDER



OPTIONAL
DUST HOOD





This manual has been prepared for the owner and those responsible for the operation of a **Powermatic Model 100, 12" Planer.**
Its purpose, aside from machine operation, is to promote safety through the use of accepted correct operating and maintenance procedures. Read the safety and maintenance instructions thoroughly before operating or servicing the machine.
In order to obtain maximum life and efficiency from your Powermatic 12" Planer, and to aid in operating and maintaining the planer with safety, read this manual thoroughly and follow all instructions carefully.
The specifications put forth in this manual were in effect at the time of publication. However, owing to Powermatic's policy of continuous improvement, changes to those specifications may be made at any time without obligation on the part of POWERMATIC.
The information and recommendations contained in this publication come from sources believed to be reliable and to represent the best current practice. Powermatic does not intend this manual to be a complete course of instruction on how to use this machine with safety and does not guarantee or represent that the information is absolutely correct or sufficient. In addition, it cannot be assumed that all acceptable safety measures are listed or that other additional measures are not needed under particular or exceptional circumstances or conditions.

SPECIFICATIONS

	STANDARD	"Q" MODEL
TABLE AREA	12 x 24	12 x 24
CUTTERHEAD DIAMETER	2-7/8	2-7/8
CUTTING CIRCLE	3-1/8	3-1/8
DIR. DRIVE CUTTERHEAD S.F.M.	----	----
BELTED DRIVE CUTTERHEAD S.F.M.	4340	3600
KNIFE SIZE	1/8x7/8x12-1/4	3/16x1x2-1/4
FEED ROLLER DIAMETER	2	2
BED ROLL DIAMETER	1-1/2	1-1/2
FEED RANGE F.P.M.	18	18
MAX. DEPTH OF CUT, SINGLE BOARD	1/4	1/4
STOCK RANGE THICKNESS	1/16 - 5	1/16 - 5
WIDEST PLANABLE STOCK	12	12
SHORTEST PLANABLE BUT. STOCK	6	6
SHORTEST PLANABLE STOCK NOT BUT.	7-1/2	7-1/2
MOTOR H.P. RECOMMENDED: LT. WORK	2	2
MOTOR H.P. RECOMMENDED: HVY. WORK	3	3
APPROX. WT. DOMESTIC (CRATED WITH MOTOR)	410 LBS.	410 LBS.

* LINEAR DIMENSIONS IN INCHES.
* S.F.M. IS SURFACE FEET PER MINUTE.
* F.P.M. IS FEET PER MINUTE.

THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

WARRANTY

Powermatic, a Division of DeVlieg-Bullard, Inc., Morrison Road, McMinnville, Tennessee 37110 ("Powermatic") warrants to its authorized distributors of Powermatic products and the original purchasers from such distributors, all products manufactured by Powermatic to be free of defects in material and workmanship for a period of twelve (12) months from the date of delivery from its authorized distributors or 2000 hours of use, whichever occurs first. During said warranty period Powermatic will, at its option, repair or replace any product (or component part thereof) proving defective during said period. This warranty applies only to products which are used in accordance with all instructions as to operation, maintenance and safety set forth in the catalogs, manuals, and/or instruction sets furnished by Powermatic. This warranty becomes effective only if the accompanying card is fully and properly completed and returned to Powermatic within ten (10) days from date of delivery to the original purchaser.

This warranty does not apply to items that would normally be consumed or require replacement due to normal wear (blades, lubricants, etc.); to electrical motors and components which are warranted by their manufacturer; or the costs of removal, shipment for service and reinstallation. Claims relating to electrical components must be taken to the component manufacturer's local authorized repair station for service.

This warranty is null and void if the product has been subjected to (1) misuse, abuse or improper service or storage; (2) accident, neglect, damage or other circumstances beyond Powermatic's control; (3) modifications, disassembly tampering, alterations or repairs outside of Powermatic's factory not authorized by Powermatic; or to any product not bearing its original serial number plate. This warranty does not apply to normal wear and tear, corrosion, abrasion, or repairs required due to natural causes or acts of God.

To obtain the fastest possible warranty service you must first notify in writing the authorized Powermatic distributor from whom you purchased the product specifying (1) the product by catalog number and serial number, (2) the date the product was delivered to you, (3) a description of the problem for which you seek warranty service, and (4) evidence of proof of purchase. Should circumstances prohibit you contacting the distributor then contact the Powermatic factory directly. If your claim is covered by this warranty, your Powermatic distributor will provide you with instructions as to how and where service will be provided. On simple warranty replacement or repairs, installations instructions will be provided to allow correction by customer personnel. Powermatic assumes no responsibility for products which are returned without its prior written authorization. Powermatic's obligation under this warranty shall be exclusively limited to repairing or replacing (at Powermatic's option products which are determined by Powermatic to be defective upon delivery, F.O.B. (return freight paid by customer) Powermatic's factory, and on inspection by Powermatic. In no event shall Powermatic's liability under this warranty exceed the purchase price paid for the product.

THIS IS POWERMATIC'S SOLE WRITTEN WARRANTY. ANY AND ALL OTHER WARRANTIES WHICH MAY BE IMPLIED BY LAW, INCLUDING ANY WARRANTIES FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. POWERMATIC SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE, OR EXPENSE DIRECTLY OR INDIRECTLY RELATED TO THE USE OF ITS PRODUCTS OR FROM ANY OTHER CAUSE OR FOR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION, LOSS OF TIME, INCONVENIENCE, AND LOSS OF PRODUCTION). THE WARRANTY CONTAINED HEREIN MAY NOT BE MODIFIED AND NO OTHER WARRANTY, EXPRESSED OR IMPLIED, SHALL BE MADE BY OR ON BEHALF OF POWERMATIC.

1. **Read**, understand, and follow the safety and operating instructions found in this manual. Know the limitations and hazards associated with this planer. A safety rules decal is installed on each machine to serve as a reminder of basic safety practice.

2. **Grounding of the Planer:** Make certain that the machine frame is electrically grounded and that a grounding lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding lug connects to a suitable ground. Follow the grounding procedure indicated by the National Electric Code.

3. **Eye Safety:** Wear an approved safety shield, goggles, or glasses to protect eyes when operating the planer.

4. **Personal Protection:** Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose clothing and confine long hair. Protective type footwear should be worn and hearing protectors should be used where noise exceeds the level of exposure allowed in section 1910.95 of the OSHA regulations. Do not wear gloves.

5. **Work Area:** Keep the floor around the machine clean and free of scrap material, saw dust, oil or grease to minimize the danger of tripping or slipping. Be sure the table is free of all scrap, foreign material and tools before starting a cut. Powermatic recommends the use of anti-skid floor strips on the floor area where the operator normally stands and that each machine's work area be marked off. Make certain the work area is well lighted and that a proper exhaust system is used to minimize dust. Provide for adequate work space around the machine.

6. **Guards:** Keep the machine guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards upon completion of the maintenance task before using the planer. Do not operate the machine with the guards off.

7. **Do Not Overreach:** Maintain a balanced stance and keep your body under control at all times. Do not overreach.

8. **Maintain Tools In Top Condition:** Keep tools sharp and clean for safe and best performance. Dull tools increase noise levels and can cause kickbacks and glazed surfaces. Broken tools or tools that are not securely locked in the cutterhead can be thrown out of the planer causing severe or fatal injury as well as severe damage to the machine. Check the condition and adjustment of the tools before making any cuts. Follow the sharpening instructions on knife grinding and jointing, installing and adjustments. Caution: Do not use knives that have been reground to less than 5/8" (16mm) height on standard cutterheads or 1/2" (13mm) height on quiet cutterheads.

9. **Operator Position:** Stand to the left side, out of line with the table, and make sure no one else is standing in line with the table.

10. **Hand Safety:** Keep hands outside the machine. Never reach under the guards to try to clear stock that stops feeding. Do not clear chips and sawdust with hands; use a brush. Note caution decal at rear of the machine. Do not have any part of the hands under the part of the board that is over the table when starting a cut; the infeed roll will engage the board and force it down against the table causing a pinching action.

11. **Cutterhead Rotation:** Be sure cutterhead rotates under power in a counterclockwise direction when viewed from the main drive motor side.

12. Machine Adjustments: Make all machine adjustments with the power off except feed rate.

13. Machine Capacity: Do not make any cuts requiring more power than is available on the machine. Each machine has a caution decal on the front panel indicating the maximum depth of cut. Do not attempt to feed two boards side by side.

14. Material Condition: Do not plane boards with loose knots or with nails or any foreign material on its surface. Knife impact on these objects can cause the knives to be pulled out and cause them to shatter against the chip breaker or pressure bar. Twisted, warped, or in wind stock should first be jointed on one surface before attempting to plane a parallel surface on the planer. Serious stock flaws cannot be removed by use of a planer alone.

15. Stacked Boards: Do not feed stacked boards through a planer; a kickback can occur causing severe or fatal injury.

16. Short Stock: Do not attempt to plane boards shorter than 7-1/2" in length without butting a board of equal thickness behind it to help it through the planer. Be sure the last board of a butted sequence is 7-1/2" or longer.

17. Stock Stops Feeding: If the board being planed stops feeding, disengage or turn the feed off and turn the power off. Wait until the cutterhead comes to a complete stop before lowering the table to remove the board. Never lower the table with the power on and the stock still in the machine. A kickback can occur which could cause a severe or fatal injury.

18. Avoid Accidental Starting: Make certain the motor switch is in the off position before connecting power to the planer.

19. Careless Acts: Give the work you are doing your undivided attention. Looking around, carrying on a conversation, and "horseplay" are careless acts that can result in serious injury.

20. Job Completion: If the operator leaves the machine area for any reason, the planer should be turned "off" and the cutterhead should come to a complete stop before his departure. In addition, if the operation is complete, he should clean the planer and the work area. Never clean the planer with power "on" and never use the hands to clear sawdust and debris; use a brush.

21. Disconnect Machine before performing any service or maintenance and when changing blades.

NOTE

22. Replacement Parts: Use only Powermatic or factory authorized replacement parts and accessories otherwise the planer warranty and guarantee will be null and void.

23. Do Not Use this Powermatic planer for other than its intended use. If used for other purposes, Powermatic disclaims any real or implied warranty and holds itself harmless for any injury which may result from that use.

RECEIVING:

Uncrate machine and check for shipping damage. Report any damage to the carrier and your distributor immediately. If accessories were ordered with the machine, these will be in a separate container and should be checked for completeness and damage. Notify the carrier and your distributor immediately if any items are missing or damaged. Clean protective coating from all areas and lubricate parts as indicated in this manual.

INSTALLATION:

The machine area should be clean, dry, well ventilated, and well lighted. Since planers can create noise problems, the site selection should be one which minimizes reverberant sound from walls, ceilings and other equipment. Electricals should be installed so that they are protected from damage and exposure. Be sure to properly ground the machine frame.

EXHAUST SYSTEM:

When an exhaust system is used, be sure it is of sufficient size to provide an exhaust volume of 1100 cubic feet/min. (31.2 cubic meter/min.). If an exhaust system is not used, the user is cautioned against the health hazard and the limitations in the OSHA regulations for employee or student exposure to dust particles. Powermatic recommends that an exhaust system be used with a planer.

INSPECTION:

Before putting power on the machine, check that all screws are tight, that all mechanical functions work freely and that the cutterhead turns freely without knife contact with the chip breaker or pressure bar. Periodic or regular inspections are required to insure that the machine is in proper adjustment, that all screws are tight, that belts are in good condition, that dust has not accumulated in the electrical enclosures and that there are no loose or worn electrical connections.

BEFORE OPERATING:

Be sure to read and understand the operating instruction manual before using the planer.

Check the motor and switch wiring diagram for proper voltage connections before applying power to the machine (see page **17** for wiring diagrams). Turn the motor on momentarily to check for proper direction of rotation. Correct as required. The cutterhead should rotate counter-clockwise when viewed from the sheave or motor side. The infeed roll should turn clockwise when viewed from the motor side of the planer. Run the machine without cutting for a short period of time to check that all powered functions are operating properly.

LUBRICATION:

The cutterhead, infeed roll and outfeed roll are mounted on sealed ball bearings and require no lubrication. The following lubrication chart indicates the lubrication points, frequency, and recommended lubricants.

MODEL 100

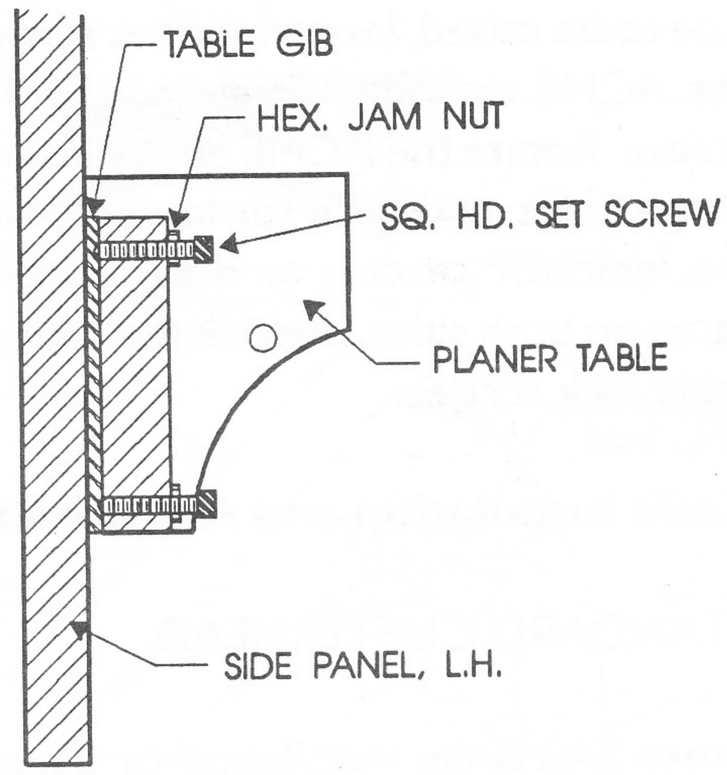
POINT	FREQUENCY	LUBRICANT
Infeed roll housing.	Weekly	Fiske Lubriplate #630AA
Table ways.	Daily	SAE10
Feed drive idler shafts.	Weekly	SAE 10
Table elevating miter gears.	Weekly	Fiske Lubriplate #630AA
Table elevating screws.	Weekly	Fiske Lubriplate #630AA
Knife grinder ways.	Prior to use	SAE 10
Feed drive gears.	Monthly	Fiske Lubriplate #630AA
Table roll housings.	Monthly	Fiske Lubriplate #630AA

MACHINE ADJUSTMENTS

Planer Table:

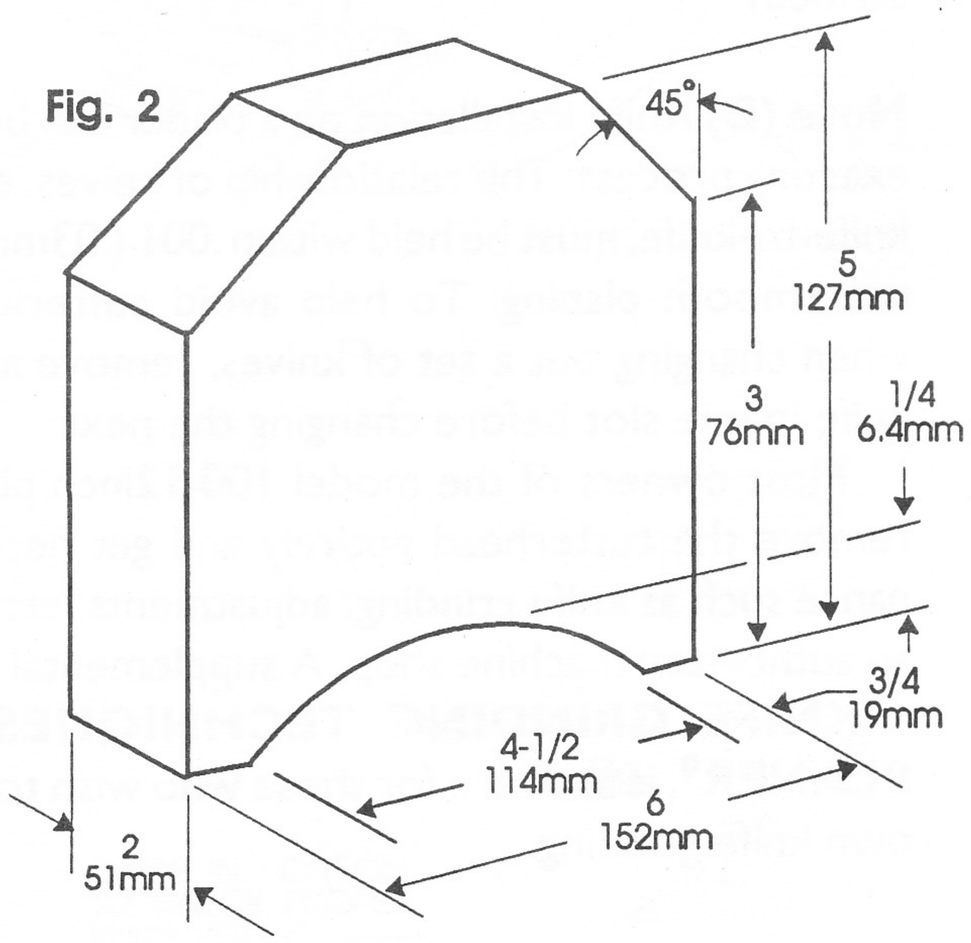
The planer table is raised and lowered by twin ACME screws supported on thrust bearings and is guided by machine surfaces on the side panels. The fit-up to prevent the table from rocking is controlled by two gibs in front. These gibs should be adjusted individually using the gib screws provided (**Fig. 1**) so that the ways are lightly contacting on all four surfaces. The gibs should be tight enough to prevent rocking or movement of the table when the planer is in operation.

Fig. 1



To do accurate planing, the table must be parallel with the cutterhead. Lack of parallelism results in a taper over the width of a board. Check with straddle-type knife gage to insure knives have the same protrusion from the cutterhead arc {approximately .125 (3.2mm)} end to end and that each knife is the same. Maximum deviation allowed for good planing is .001 (.025mm). If deviation exceeds .001 (.025mm), see section on installing cutterhead knives or section on jointing and grinding knives before leveling the table.

Fig. 2

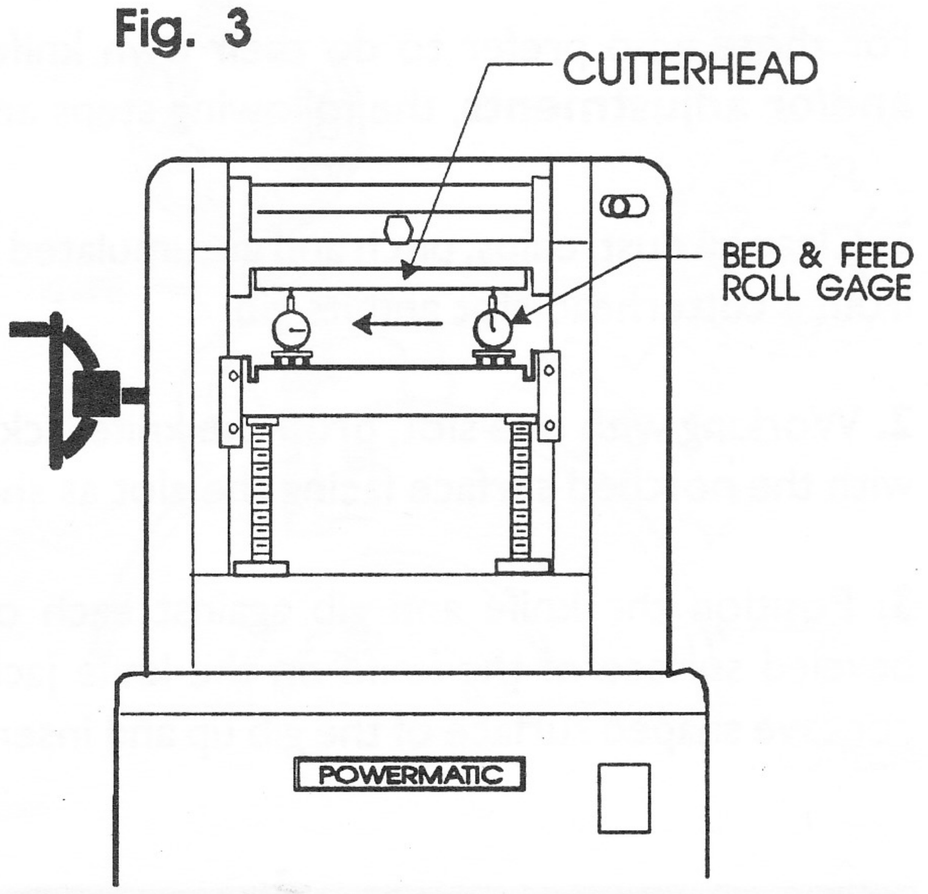


Place a 6"x 5" (152mm x 127mm) gage block (**Fig. 2**) and shop scale to be used as a feeler gage or bed and table roll gage at the extreme right hand side of the table, rotating head so the knives clear the gage surface. Raise the table with the table raising handwheel until the scale on top of the block just touches the cutterhead. If using the indicator gage, establish the low point of the cutterhead arc by moving the gage front to back for the maximum indicator reading and then zero the dial at this point (**Fig. 3**).

Move the block or indicator gage to the maximum indicator reading then zero the dial at this point (**Fig. 3**).

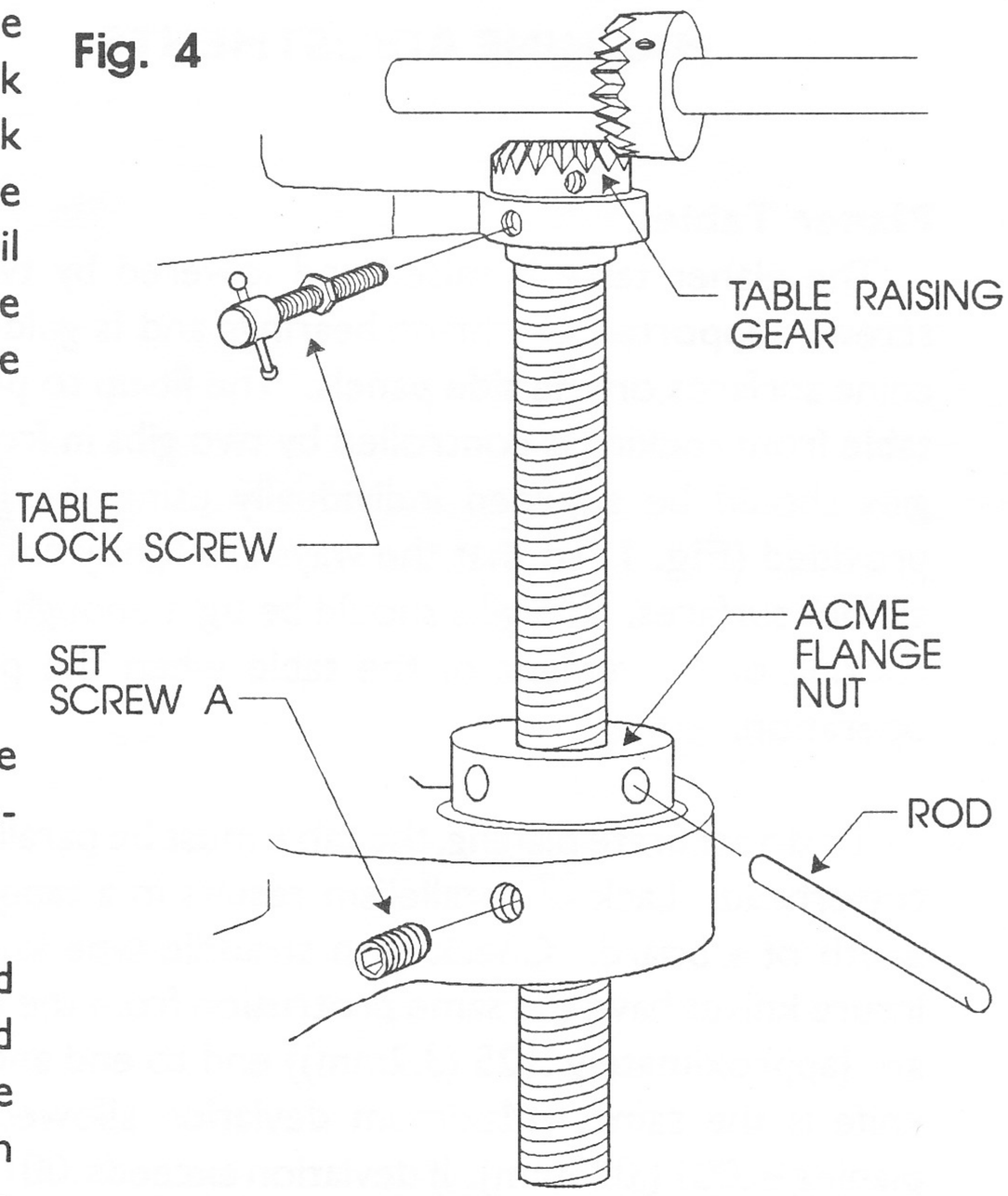
Move the block or indicator gage to the extreme left side of the table. Using the indicator gage or block, find the low point of the cutterhead arc without moving the table height. Note whether the reading is less than or greater than the right side. **If greater on the left side, the right side of the table must be raised; if less, the left side of the table must be raised.**

Fig. 3



With the indicator or gage block in position under the side to be raised, loosen the set screw **A (Fig. 4)** to unlock the ACME threaded flange nut, and unlock the table lock screw. Rotate the ACME nut by inserting a rod in one of the flange holes and raise (or lower) that side of the table until the indicator reading or drag feel on the gage block is the same on both sides. Relock the flange nut set screw and the table lock screw.

Fig. 4



Knife Installation and Adjustments:

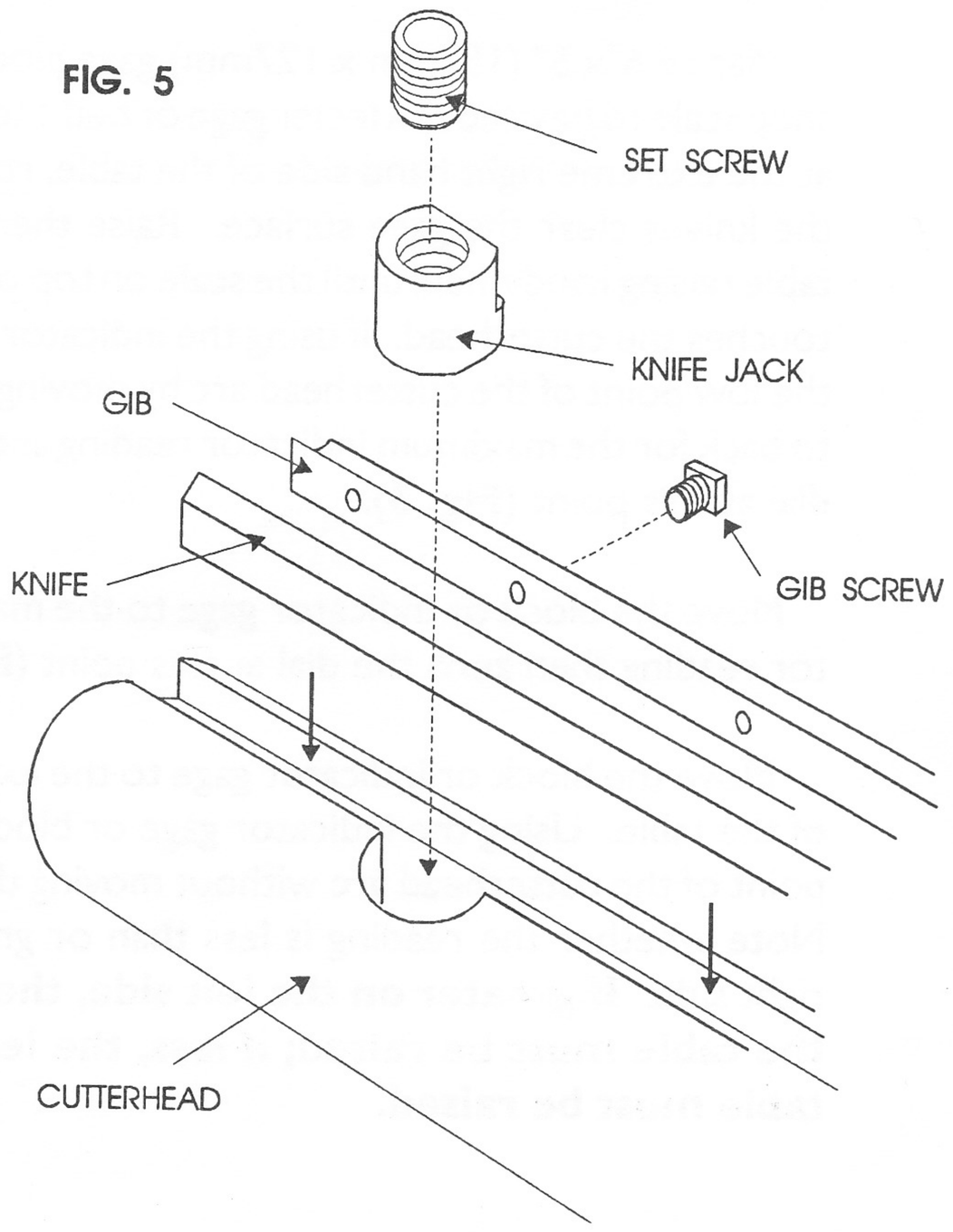
STANDARD CUTTERHEAD

Note (A) Knife installation or adjustments must be done after the planer table has been levelled (as previously described)

Note (B) Knife installation on a planer can be a difficult and exacting process. The relationship of knives, end-to-end and knife-to-knife, must be held within .001 (.03mm) for accurate and smooth planing. To help avoid cutterhead distortion when changing out a set of knives, remove and replace the knife in one slot before changing the next.

Most owners of the model 100-12inch planer prefer to remove the cutterhead entirely and get necessary maintenance such as knife grinding, adjustments, etc. performed at an authorized machine shop. A supplemental manual, # 003, **"KNIFE GRINDING TECHNIQUES FOR THE PLANER"**, is available for those who wish to perform their own knife grinding.

FIG. 5



For those who prefer to do their own knife **installation and/or adjustments**, the following steps are necessary:

1. Clean all dust, chips, pitch and accumulated foreign matter from a cutterhead slot and its gib.

2. Working with one slot, drop the knife jacks in their seats with the notched surface facing the slot as shown in **Fig. 5.**

3. Position the knife and gib against each other with the beveled surface of the knife on the knife jack side and the concave shaped surface of the gib up and insert into the slot.

3 (cont.). The back edge, or heel, of the knife bevel should be slightly above the outside diameter of the cutterhead as shown in the assembled cross section view, **Fig. 6**. Lightly tighten the two outside and center gib screws.

4. Take the cutterhead knife gage, **Fig. 7**, and zero it on the cutterhead outside diameter. As a reminder, different size planers have different cutterhead diameters so that the zero point should be checked before using the gage.

5. Working from the bevel side and close to an outside jackscrew, slide the indicator on the radius of the cutterhead body to establish the high point of the knife.

6. Using an Allen wrench in the jack, raise the knife to be approximately 1/8" (.125") (3.18mm) projection from the cutterhead body (see **Fig. 6**). Move the gage to the opposite end and repeat the process. Finally, check the center section to be sure it is within tolerance. If it is low, try backing off slightly on the center gib screw. If it is too high, jointing and possibly grinding will be necessary. Recheck the full length of the knife and be sure it is the same height. The heel of the bevel should be 1/16" (1.59mm) or less outside of the cutterhead body and top of the gib should be approximately 1/8" (3.18mm) down from the tip of the knife.

7. Starting from the center outward, snug down all gib screws then repeat the process and lock them down.

8. Repeat steps 1 through 7 on successive knives making sure that the height from knife to knife is the same within .001 (.03mm).

9. After all knives have been installed, recheck all gib screws. to be sure they are tight. **Loose gib screws can result in knives being thrown out of the cutterhead causing severe damage to the machine and possible serious or fatal injury to the operator or bystanders.**
Note: If all knives have been removed, a new set must be installed without locking the gibs until all knives and gibs are in and the gib screws lightly snugged down. The locking process should proceed working from the center out on each knife. After locking all gib screws once, repeat the same sequence until all screws are equally tight. **Locking one knife in without the others in position can cause cutterhead distortion.**

Fig. 6

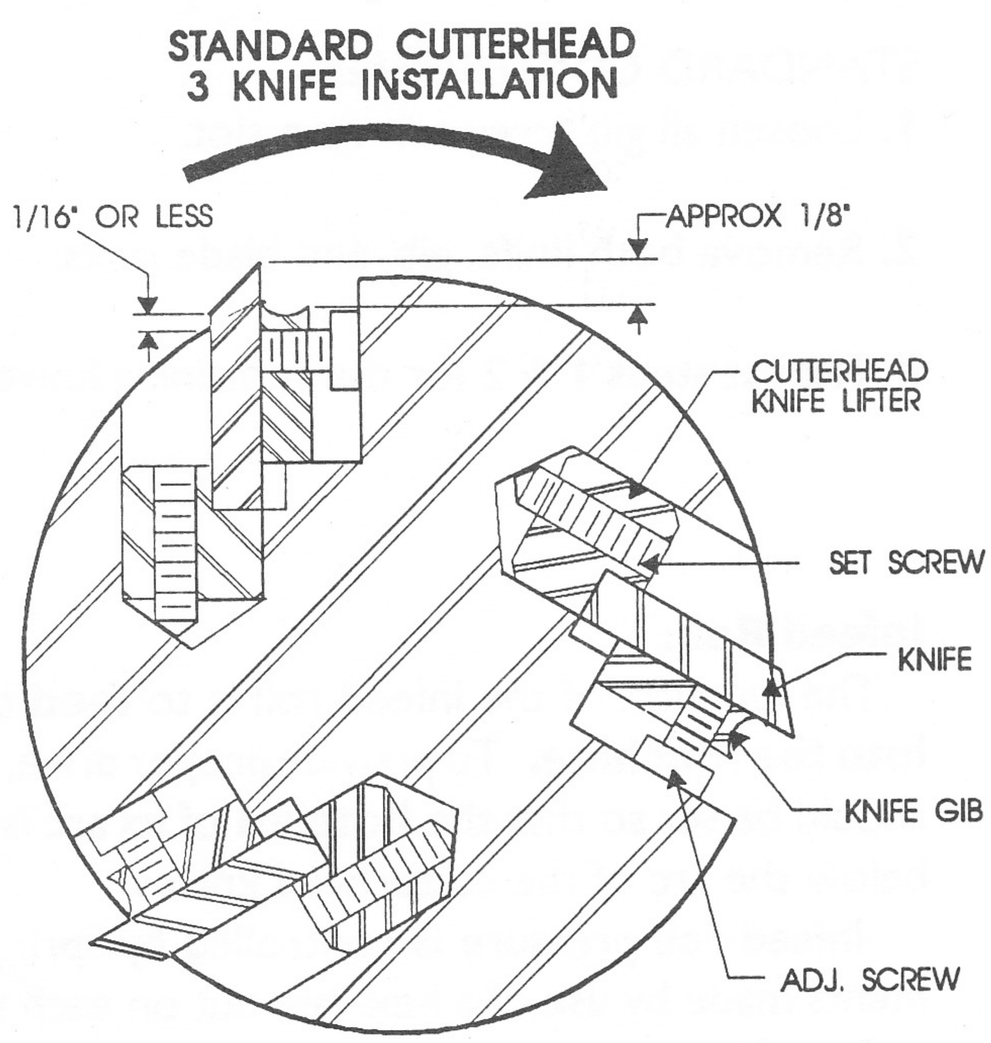
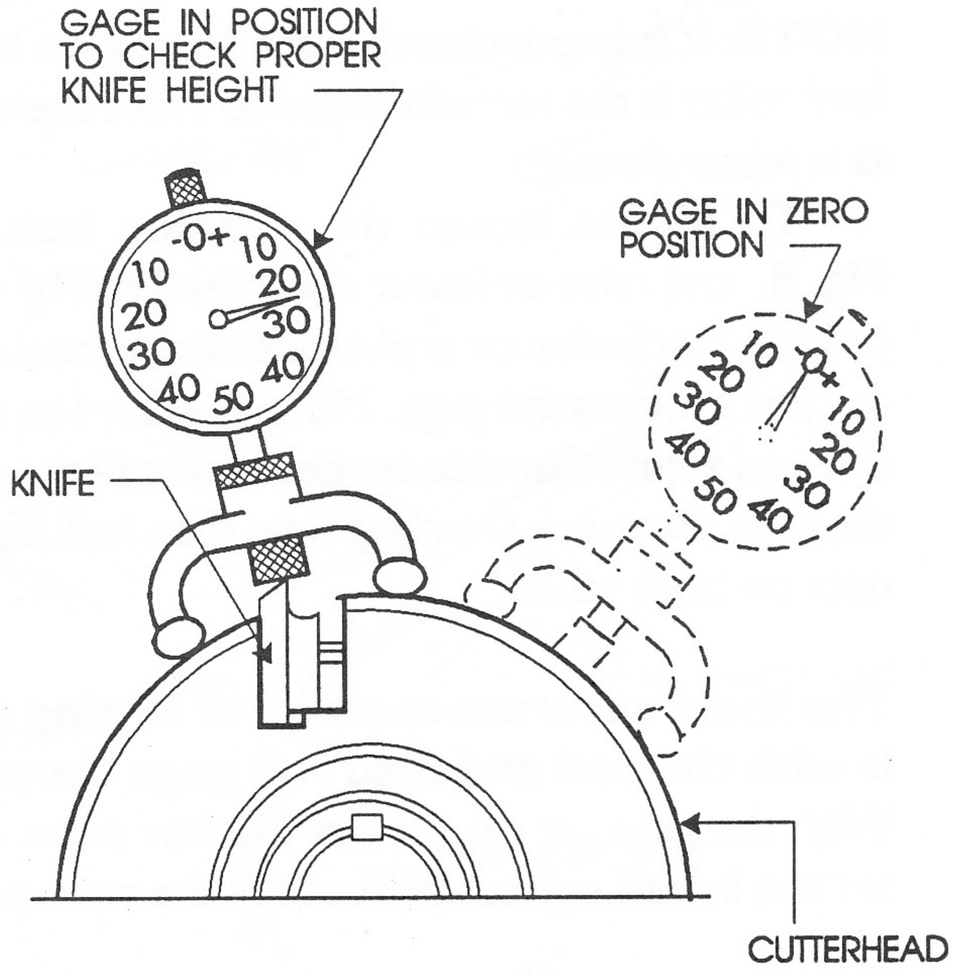


Fig. 7



Removal of Knives

STANDARD CUTTERHEAD

1. Loosen all gib screws in **one** slot.

2. Remove both knife, gib, and blade jacks.

3. Repeat steps 1 & 2 for the remaining knives.

Infeed Roll:

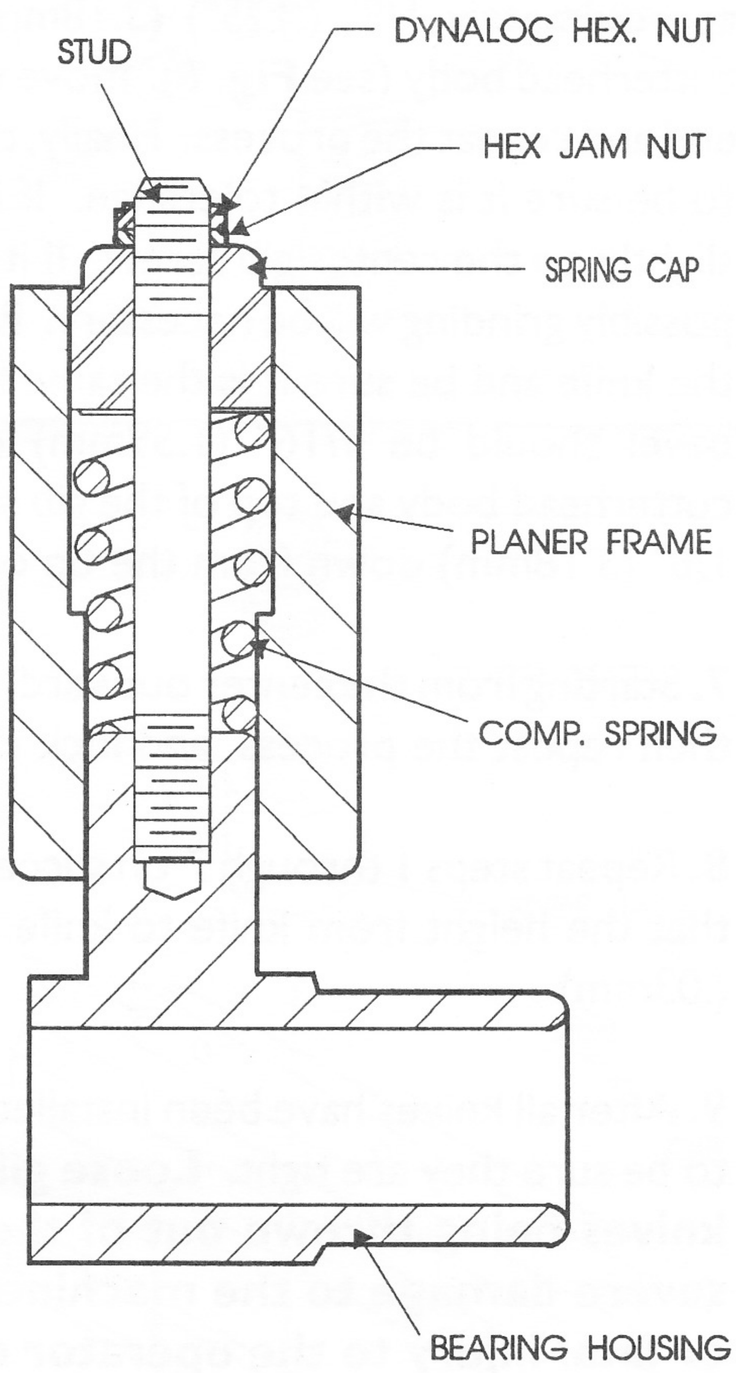
The function of the infeed roll is to **feed the material into the machine.** To provide proper drive, the infeed roll should be set so that the **bottom** of its arc is 1/32" (.8mm) below the arc of the cutterhead knives.

Infeed roll pressure is controlled by springs and adjustments made by use of a hex. jam nut on each stud as shown in **Fig. 8** (see also exploded view, p.21, items 77 thru. 81). Using a gage block (Fig. 2) placed on edge under one knife of the cutterhead, raise the table with the table raising handwheel and rock the cutterhead back and forth until it just touches the gage block .{A shop scale of the proper thickness of 1/32" (.8mm) can be placed on top of the gage block when touching off under the knives and then removed when setting the infeed roll to provide the correct step down.} Lower the table 1/32" and move the 2 x 4 or gage block under the extreme right hand side of the infeed roll. If it will not go in, the roller must be raised. If clearing, it must be lowered.
NOTE: It is important that the setting on both sides of the feed roller is the same in order to avoid skewing of the stock as it feeds through.

To adjust, loosen the **dynaloc hex. nut** shown in **Fig. 8**, and raise or lower the infeed roll by turning the hex. jam nut clockwise or anti-clockwise as required so that the roll just touches the gage. Move the 2 x 4 to the extreme left side and adjust that side as required until the roll just touches the gage. Recheck the right side then lock down the dynaloc nuts on both studs.

The most accurate method of setting the infeed roll is with the bed and feed roll gage shown on page 23. With the gage set on zero at the low point of the knife arc, set the infeed roll to .031 **below** the zero point.

Fig. 8



It is important that the setting on **both sides** of this feed roll be close to the same height to help avoid skewing of the material as it is fed through the machine. Infeed roll pressure adjustments are made by the same method used for the block gage (see **Fig.8**). The adjusting screw will be approximately flush with the bottom of the countersink on the top edge of the side panels when properly adjusted.

Outfeed Roll:

To help avoid marring the finished surface of the material being cut, the outfeed roll is smooth and of one-piece construction. Its function is to continue to feed the material through the machine after it leaves the infeed roll.

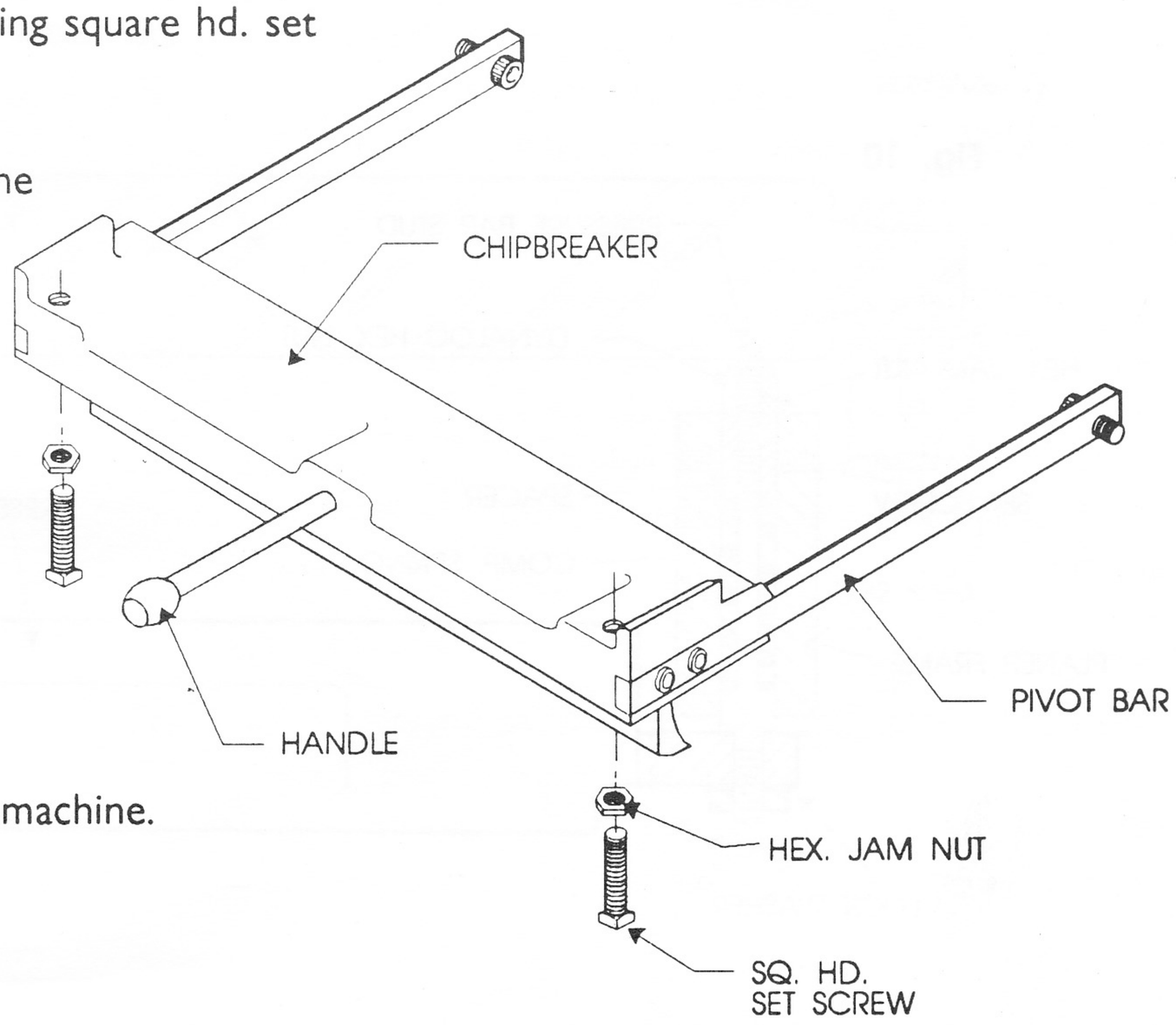
The correct free position setting is 1/32" (.8 mm) **below** the arc of the cutterhead knives. **Follow the same procedure as the infeed roll for making adjustments.**

Chipbreaker:

The functions of the chipbreaker are to help avoid splintering out of the wood, to break chips into small pieces, to help avoid board bounce on thinner boards, and to direct the flow of chips out of the machine. The chipbreaker in its free positon should be 1/32" (.8mm) below the cutting arc of the knives (the same as the infeed roll).

Remove the cover over the top section of the planer. Using the same method as indicated for the infeed roll, adjust the chipbreaker free position using a 2 x 4 gage block (see Fig. 2), a 1/32" thick shop scale, and adjusting square hd. set screws in the pivot arm shown in **Fig.9.**

Fig. 9



NOTE: It is important that each end of the chipbreaker be close to the same height to help avoid skewing of the material as it is fed through the machine. Since the chipbreaker adjusting square hd.screws contact the bearing housing for the infeed roll, their adjustments should be made after the infeed roll adjustment. If the infeed roll setting is altered, the chipbreaker **must** be readjusted.

Caution: A chipbreaker set too low may prevent stock from feeding into the machine.

Pressure Bar:

Most planing problems can be related to improper setting of the pressure bar. Its functions are to hold the material down after it passes under the cutterhead and throughout the remainder of the cut. **Its basic setting is to be in line with the arc of the cutterhead knives.** If it is too high, a shallow clip will occur 6" (152mm) in from each end of the board. If it is too low, stock will not feed through.

With a bed and feed roll gage (shown on page 23), or a gage block with a 1/32" thick scale as a feeler, placed under the cutterhead, raise the table with its elevating handwheel to determine the low point of the arc of a cutterhead knife. Move the gage or gage block and scale under the low point of the extreme right hand side of the table and adjust that end of the pressure bar, as shown in **Fig. 10,** by loosening the dynaloc hex. nut and turning the hex. jam nut to bring that end of the pressure bar in line with the low point of the knife arc.

Move the gage to the extreme left hand side and adjust that side to be in line with the low point of the knife arc. Recheck the right side; check the full width of the pressure bar. If the center is slightly low, adjust both sides the same amount to bring the low point into line.

With the bed and feed roll gage, set the full length of the pressure bar to be .000-.001 (.02mm) **above** the arc of the cutterhead. This initial setup is a starting point and final adjustment may have to be made during a test cut.

Fig. 10

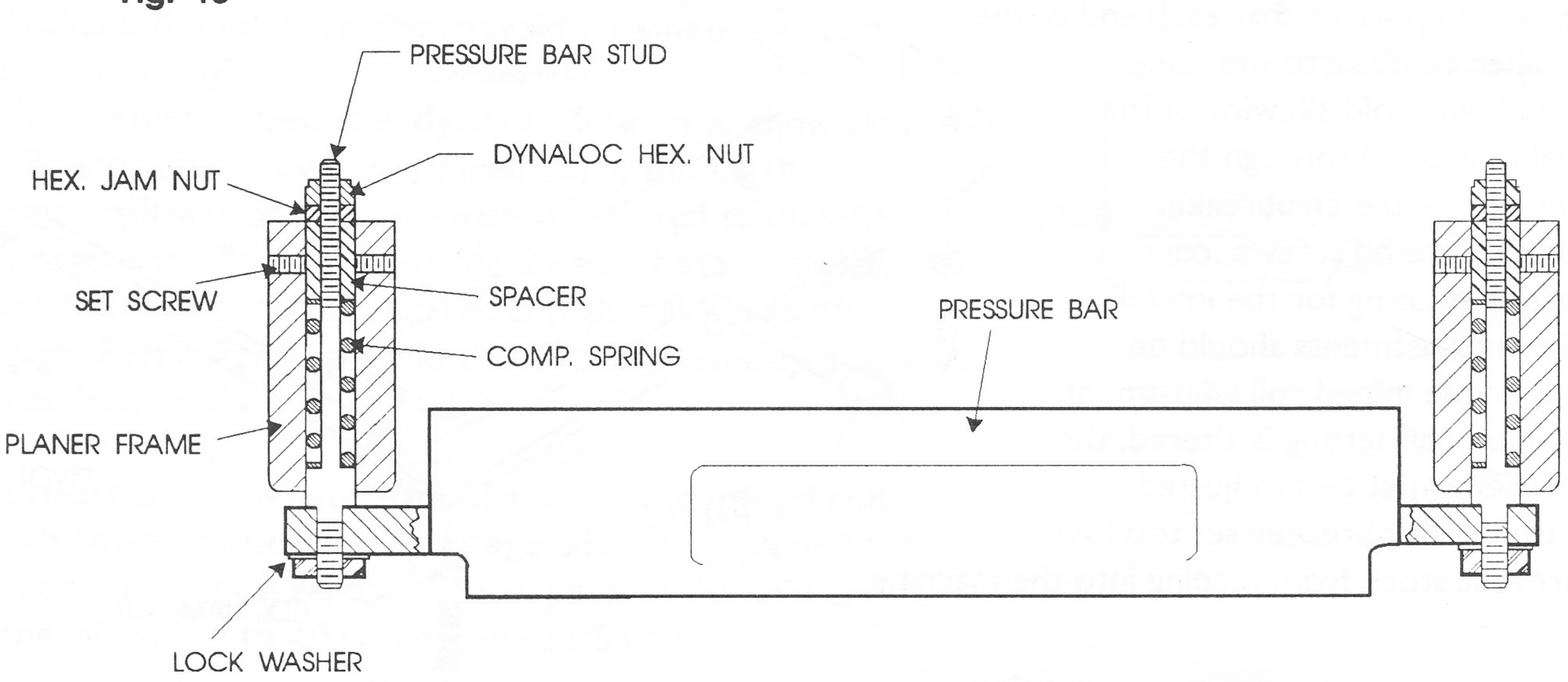


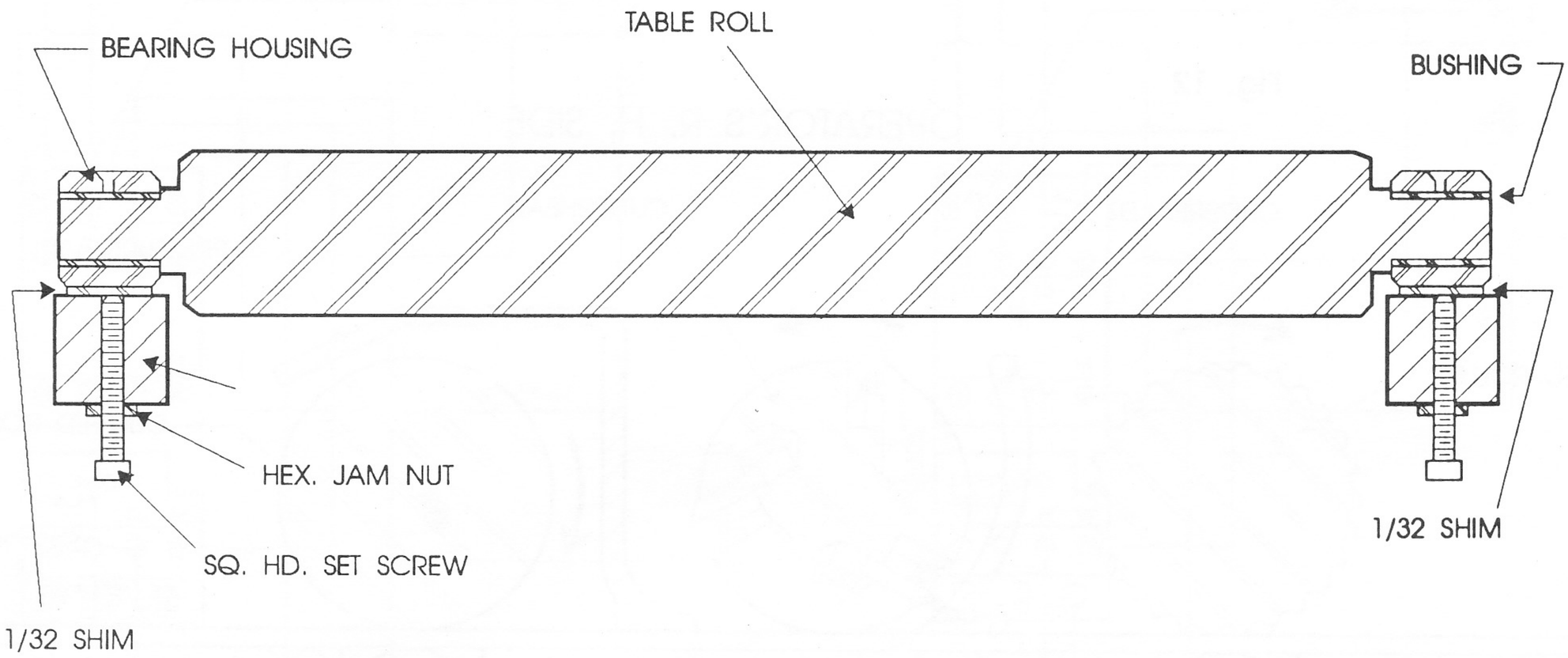
Table Rolls:

Two table rolls are provided on the planer to help reduce the friction of the stock on the table as it feeds through the machine. Bed rolls should be adjusted on your 12" planer to be .008 (.2mm) above the table for all finish planing operations. To adjust the bed rolls using the bed and feed roll gage, set the dial indicator in an upside down position.

Zero the indicator on the flat surface of the table and position the gage on the extreme right-hand side of the table over the front bed roll. Loosen the hex. jam nut shown in **Fig. 11** and adjust the jack screw to raise the bed roll to .008 (.2mm). Move the gage front to back to find the high point of the bed roll arc. Move the gage to the left-hand end of the front bed roll and repeat the process. Recheck the right-hand end and adjust if necessary. Lock the jack screws with the jam nut provided. Repeat the process for the rear bed roll.

To provide a rough-finish capability with 12" planers, four (4) 1/32" (.794mm) thick shims can be used as shown in **Fig. 11**. For roughing, lift the rolls up and slip the shim between the adjusting screw and the bearing housing. For finishing, remove the shims.

Fig. 11



Test Cutting:

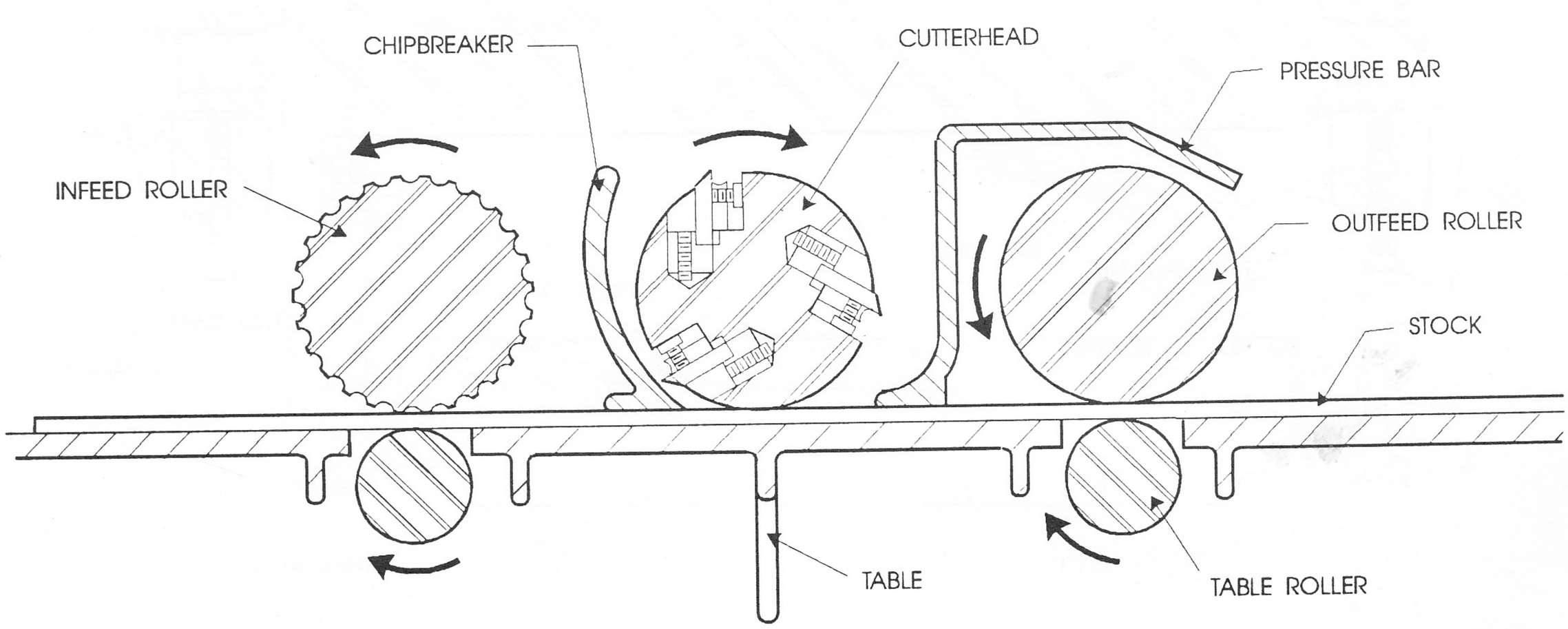
Using a piece of semi-finished stock, set up for a 1/16" (1.58mm) deep cut with the quick-set adjustment at zero. Start the machine, and standing to the left-hand side begin feeding the stock into the machine.

Caution: Never stand directly behind stock or allow anyone else to do so and **do not** bend down to see how the stock is feeding. Should a kickback occur, a serious or fatal injury could result.

A basic planer **cross section view** is shown in **Fig. 12**. The infeed roll should take the material and force it under the chipbreaker and cutterhead. If the material feeds through effortlessly, examine the finished cut carefully for imperfections. Learning to read a board for imperfections will save hours in adjusting a planer to operate properly.

If "clip" marks occur several inches in from each end of the board, the pressure bar is too high. Turn both right and left hand adjusting screws the same amount, 1/4 turn clockwise or less, and take another 1/16" (1.58mm) deep cut. Re-examine the board. Continue the operate-adjust procedure until the clip marks disappear. Should the board fail to feed through, back off slightly on both adjusting screws with the jam nuts provided.

Fig. 12



MANUAL SWITCHES

REF.	QTY.	EDP No.	DESCRIPTION
S1	1	6821365	SWITCH, FURNAS, 3PH, 12BA34P
		6821366	SWITCH, FURNAS, 1PH, 12BA24P

IEC MAGNETIC STARTERS

single phase controls

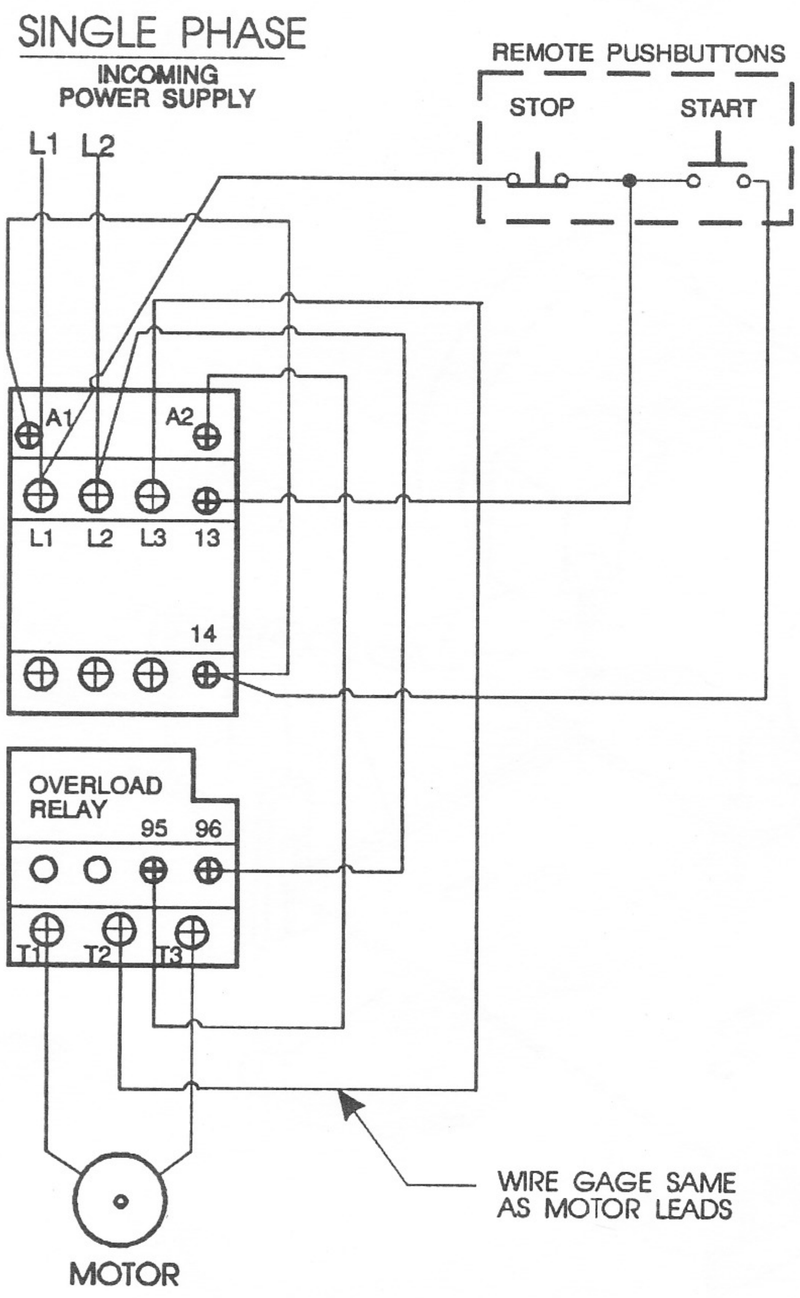
MOTOR SIZE	STARTER CONTACTOR EDP#	OVERLOAD RELAY EDP#
2HP	6816264	6659051
3HP	6816266	6659052

three phase controls

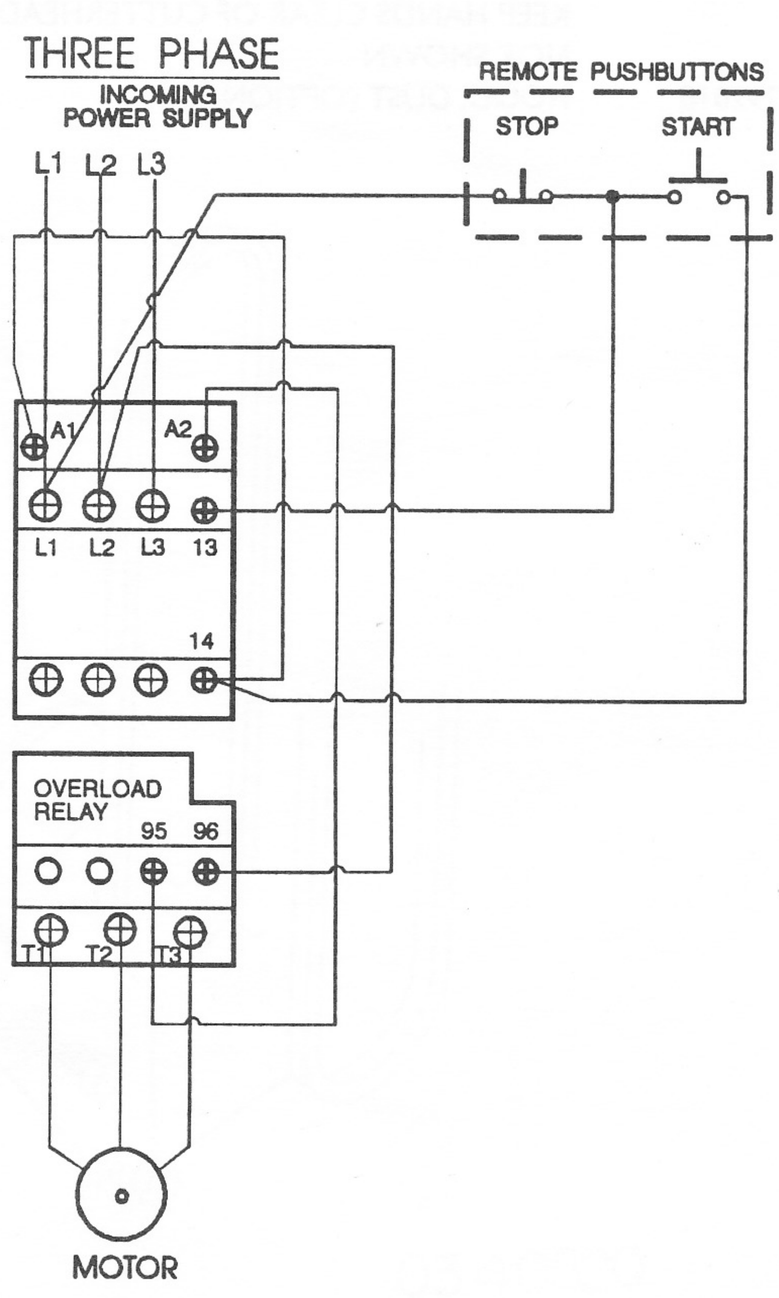
MOTOR SIZE	STARTER CONTACTOR	OVERLOAD RELAY
2HP - 230 V	6816261	6659048
460 V	6816262	6659047
3HP - 230 V	6816264	6659050
460 V	6816262	6659048

ELECTRICAL: Model 100- 12" PLANER , IEC Control , Magnetic Starter

SINGLE PHASE



THREE PHASE



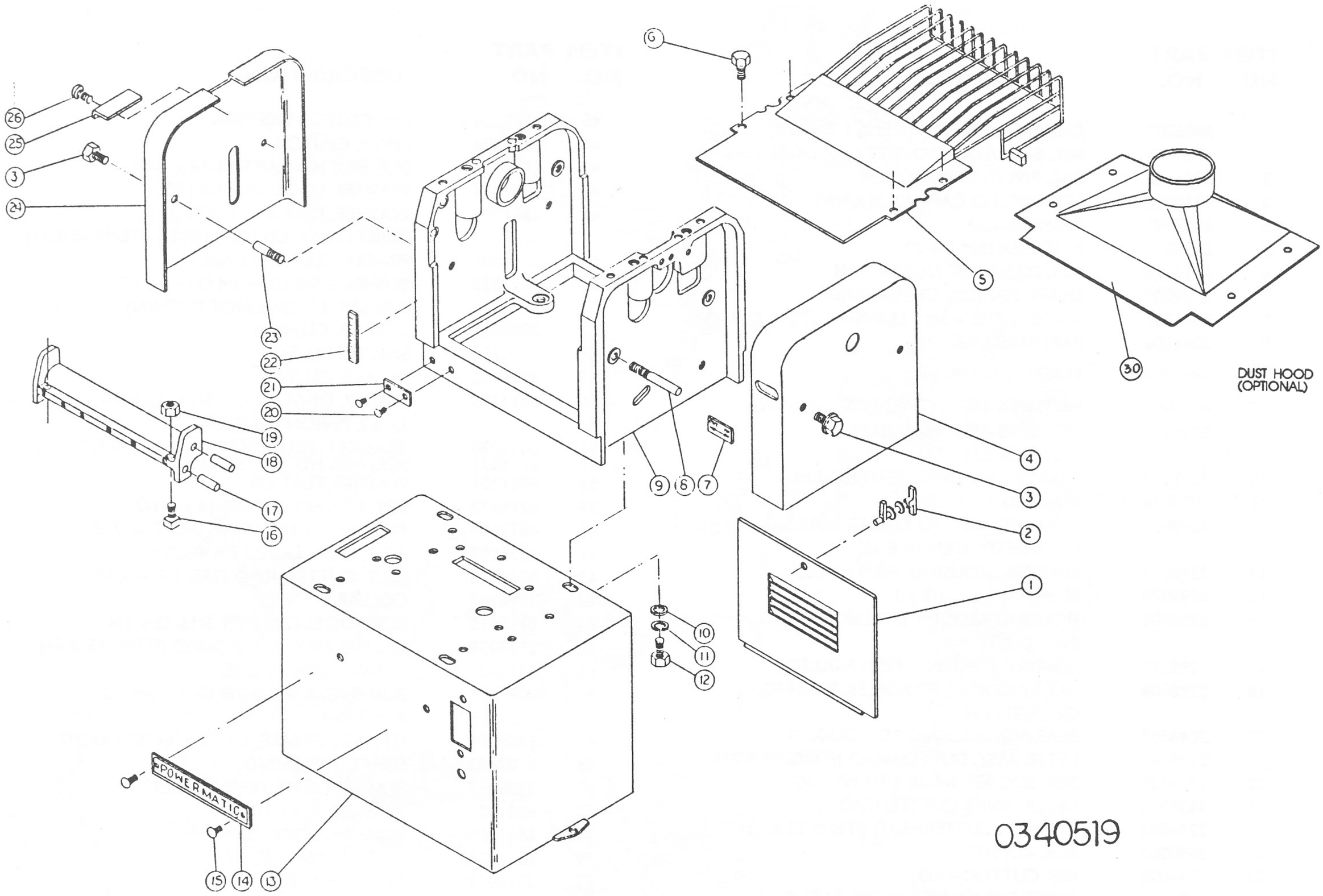
STAND & FRAME ASSY.

ITEM NO.	PART NO.	DESCRIPTION
	2136043	DOOR AND LATCH ASSY.
1	3136045	DOOR
2	6440002	LATCH
3	6715007	SCREW, HEX WASH HD 5/16-18 x 1/2
4	3250044	GUARD, FEED DRIVE
5	2250193	COVER, TOP ASSY
6	6746023	SCREW, HEX HD TAP 1/4-20 x 5/8
7	3312228	PLATE, I.D. SER NO.
8	3773004	STUD, FEED DRIVE
9	3218013	FRAME
10	6861301	WASHER, FLAT 3/8
11	6861300	WASHER, LOCK 3/8
12	6716031	SCREW, HEX HD 3/8-16 x 1
13	2759062	STAND
14	3312251	PLATE, I.D. POWERMATIC
15	6680020	RIVET, ALUM 5/32 x 1/4
16	6714073	SCREW, SQ HD 1/4-20 x 1-1/4
17	6626040	PIN, SPRING 1/4 x 1-1/4
18	3061035	BRACE, FRONT PANEL
19	6514008	NUT, HEX JAM 1/4-20
20	6747000	SCREW, DR. #4 x 3/16
21	3312228	PLATE, I.D. SERIAL NO.
22	3684222	PLATE, SCALE
23	3773006	STUD, CUTTER HD BELT, GUARD MTG
24	3250057	GUARD BELT
25	3104094	COVER
26	6746002	SCREW, SELF TAP PAN HD #8 x 3/8
27	3330283	PLATE, SAFETY NOT SHOWN
28	3330288	PLATE, INSTRUCTION CAUTION TO AVOID KICK BACK - NOT SHOWN
29	3330305	PLATE, INSTRUCTION CAUTION KEEP HANDS CLEAR OF CUTTERHEAD NOT SHOWN
30	2292018	HOOD, DUST (OPTIONAL)

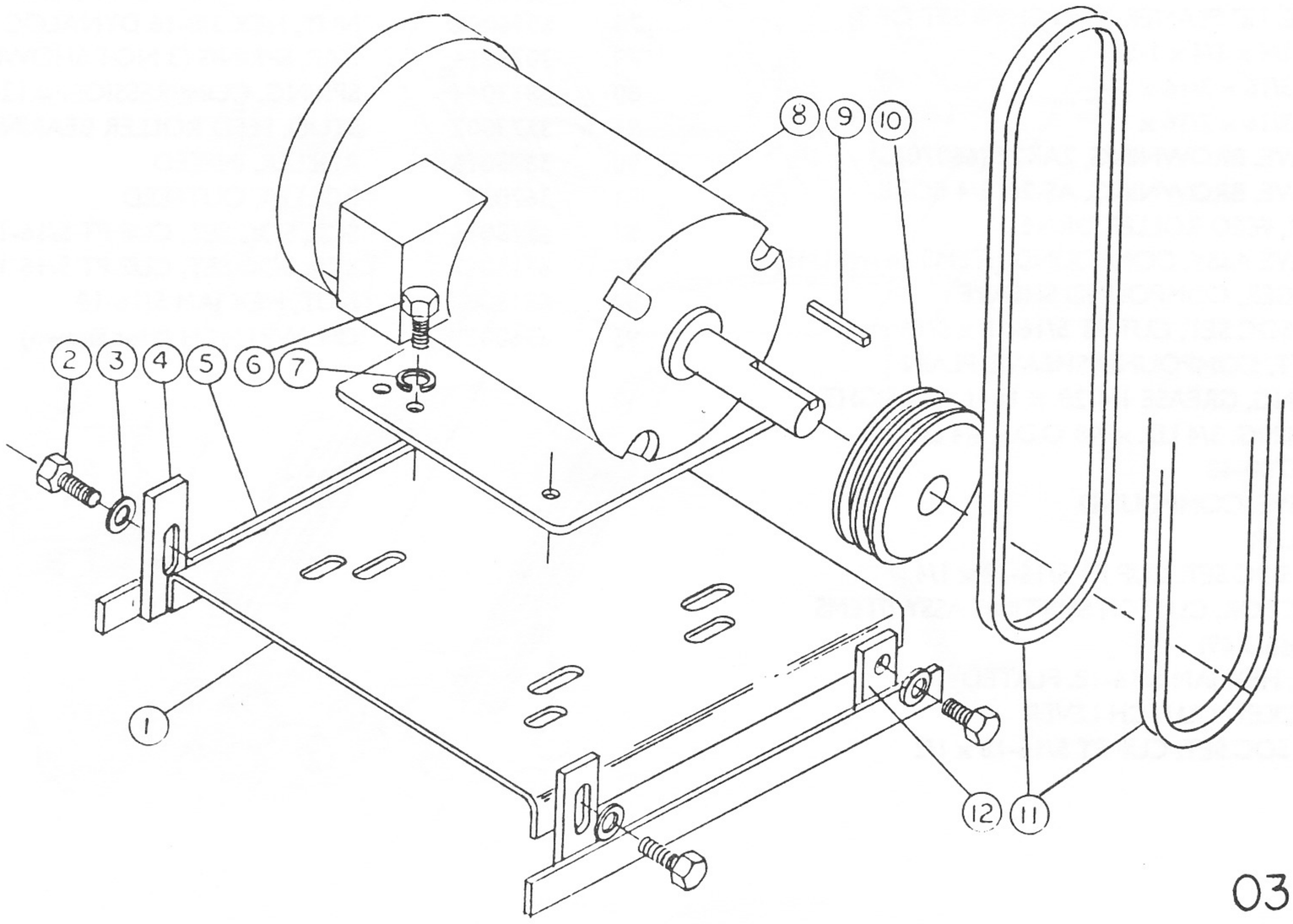
MOTOR MTG. ASSY.

ITEM NO.	PART NO.	DESCRIPTION
1	3042058	MOTOR, BASE
2	6718015	SCREW, HEX HD 1/2-13
3	6861501	WASHER, 1/2
4	3767006	STRAP, MOTOR BASE
5	3274020	HANGER, MOTOR
6	6715007	SCREW, HEX WASH HD 5/16-18 x 1/2
7	6861200	WASHER, LOCK 5/16
8	6471706	MOTOR, 2HP, 3PH, 60HZ, 3600 RPM, 230/460V, 145T FRAME, TEFC
	6471707	MOTOR, 2HP, 1PH, 60HZ, 3600 RPM, 115/230V, 145T FRAME, TEFC
	6471717	MOTOR, 2HP, 3PH, 60HZ, 3600 RPM, 200V, 145T FRAME, TEFC
	6472013	MOTOR, 3HP, 1PH, 60HZ, 3600 RPM, 115/230V, 182T FRAME, TEFC
	6472026	MOTOR, 3HP, 3PH, 60HZ, 3600 RPM, 230/460, 182T FRAME, TEFC
	6472027	MOTOR, 3HP, 3PH, 60HZ, 3600 RPM, 200V, 182T FRAME, TEFC
9		KEY WITH MOTOR
10	6807100	SHEAVE, BROWNING 2AK-41 1-1/8 BORE ALTERNATE 6807099
11	6077031	BELT, V-4L-650 MATCH SET OF TWO
	6077199	BELT, V-4L-670 MATCH SET OFTWO
		Model 1000093 uses the 650 belt
		Model 1000016 uses the 670 belt
		Model 1000092 uses the 670 belt
		Model 1000098 uses the 670 belt
		Model 1000099 uses the 670 belt
12	3094001	CLIP, MOTOR BASE

STAND & FRAME ASSY.



0340519



0340520

CUTTERHEAD & DRIVE AREA

ITEM NO.	PART NO.	DESCRIPTION
	2086007	CHIPBREAKER ASSY (ITEMS 1 THRU 8)
1	6714140	SCR, SHOULDER, SOCKET CAP 1/4-20 x 3/8
2	3044103	BAR, PIVOT, CHIPBREAKER
3	6710016	SCR, SOC HD CAP #10-20 x 5/8
4	3087007	CHIPBREAKER
5	6514011	NUT, HEX JAM 1/4-20
6	6714075	SCR, SQ HD SET 1/4-20 x 1-3/4
7	3709009	SHAFT, HANDLE CHIPBREAKER
8	3406201	KNOB, 1-7/16 x 3/8 - 16 INSERT (TEAR DROP)
9	3044106	BAR, PRESSURE
10	6861300	WASHER, LOCK 3/8
11	6516001	NUT, HEX 3/8-16 (TWO NOT SHOWN)
	2298008	HOUSING ASSY, FD ROLLER OUTFEED R.H. (ITEM 12 & 13)
12	3298372	BEARING, HOUSING FEED ROLLER
13	6095078	BUSHING 1 x 1, 1/8 x 1
	2298008	HOUSING ASSY, FD ROLLER BEARING, R.H. INFEED (ITEM 14 & 15)
14	3298372	BEARING, HOUSING, FEED ROLLER
15	6095078	BUSHING 1 x 1, 1/8 x 1
16	2298008	HOUSING ASSY. FD. ROLLER BEARING, INFEED L. H.
17	3298372	BEARING HOUSING, FEED ROLLER
18	2298008	HOUSING ASSY, FD ROLLER BEARING, OUTFEED L.H.
19	3046007	BEARING, HOUSING RD ROLL00ER
	2438001	LIFTER ASSY, CUTTERHEAD (ITEMS 20 & 21)
20	6714129	SCR, SOC SET 1/4-20 x 3/4 NYLOC
21	3438201	LIFTER, KNIFE CUTTERHEAD
	2244002	GIB ASSY, CUTTERHEAD (ITEMS 22 & 23)
22	3690065	SCR, ADJ SHIM
23	3244028	GIB, CUTTERHEAD
	2109004	CUTTERHEAD ASSY (ITEMS 24 THRU 26)
24	3112003	CUTTERHEAD, BELTED 3 KNIFE
25	6060014	BEARING, BALL, FAFNIR #206 KLL
26	3298007	HOUSING, CUTTERHEAD BEARING
27	6427003	KNIFE, 12" PLANER (MATCHED SET OF 3)
28	3388027	KEY, 1/4 x 1/4 x 1-5/8
29	3388002	KEY, 3/16 x 3/16 x 3/4
30	3388004	KEY, 3/16 x 3/16 x 1
31	3610210	SHEAVE, BROWNING, 2AK27 (6807063)
32	6807012	SHEAVE, BROWNING, AS-26, 3/4 BORE
33	3237029	GEAR, FEED ROLLER DRIVE
	2719018	SHEAVE ASSY, COMPOUND (ITEMS 34THRU41)
34	3274011	HANGER, COMPOUND SHEAVE
35	6715016	SCR, SOC SET, CUT PT 5/16-18 x 5/16
36	3707002	SHAFT, COMPOUND SHEAVE, PLAIN
37	6609004	FITTING, GREASE 1/4-28, # 1641, STRAIGHT
38	6095025	BUSHING, 3/4 I.D. x 7/8 O.D.x 3/4 LG # PS/ 700-48
39	3718006	SHEAVE, COMPOUND
40	3096244	COLLAR
41	6715015	SCR, SOC SET, CUP PT 5/16-18 x 1/4
	2698004	SELECTOR, CLUTCH SHIFTING ASSY (ITEMS 42 THRU 49)
42	6515007	NUT, HEX JAM 5/16-18, PLATED
43	3065015	BRACKET, CLUTCH LEVER
44	6715014	SCR, SOC SET, CUP PT 5/16-18 x 1/2
45	3585204	PIN, CLUTCH SHIFTING
46	3426004	LEVER, CLUTCH
47	6715034	SCR, HEX HD CAP 5/16-18 x 1-1/4
48	6861204	WASHER, LOCK 5/16 PLATED
49	6861205	WASHER, FLAT 5/16 PLATED
	2586008	PINION ASSY, CLUTCH LEVER (ITEMS 50 & 51)
50	3586005	PINION, CLUTCH LEVER
51	6095023	BUSHING, 5/8 I.D. x 3/4 O.D. x 1 LG # PS 600 -64 (ONE NOT SHOWN)
52	3096025	COLLAR, CLUTCH
53	3735204	SPACER, CLUTCH
54	3716002	SHEAVE, CLUTCH
55	6811327	SPACER, DE-STA-CO 1-5/8 O.D. x 1-1/8 I.D. 1x .62, PINION CLUTCH
56	2063020	BRACKET, CLUTCH MTG (WELDMENT)
57	6716031	SCR, HEX HD CAP 3/8-16 x 1
58	6861301	WASHER, FLAT 3/8
59	6716032	SCR, HEX HD CAP 3/8-16 x 1-1/2
60	6077009	BELT, CLUTCH SHEAVE DRIVE 4L-330
61	6077007	BELT, COMPOUND DR 4L-280
62	6077012	BELT, CUTTERHEAD FEED DR 4L-360
63	3096244	COLLAR
64	6715015	SCR, SOC SET, CUP PT 5/16-18 x 1/4
	2719029	SHEAVE ASSY, COMPOUND (ITEMS 65 & 66)
65	3718006	SHEAVE, COMPOUND
66	6095025	BUSHING, 3/41.D. x 7/8 O.D. x 3/4 LG # PS 700-4
67	6609004	FITTING, GREASE, 1/4-28 #1641STRAIGHT
68	3707003	SHAFT, THREADED
69	3735017	SPACER, COMP, FEED ROLLER
70	6861501	WASHER, FLAT 1/2
71	6861500	WASHER, LOCK 1/2
72	6518008	NUT, HEX JAM 1/2-13
73	3218013	FRAME, MAIN
74	3773203	STUD, PRESSURE BAR (ONE NOT SHOWN)
75	3741213	SPACER, PRESSURE BAR STUD
76	6813045	SPRING, COMPRESSION #12103
77	6516009	NUT, HEX JAM 3/8-16 (FOUR NOT SHOWN)
78	6516002	NUT, HEX 3/8-16 DYNALOC
79	3078214	CAP, SPRING (3 NOT SHOWN)
80	6813044	SPRING, COMPRESSION # 12101
81	3773002	STUD, FEED ROLLER BEARING
90	3673016	ROLLER, INFEED
91	367017	ROLLER, OUTFEED
92	6715016	SCR, SOC SET, CUP PT 5/16-18 x 5/16
93	6715017	SCR, SOC SET, CUP PT 5/16-18 x 1
94	6515007	NUT, HEX JAM 5/16-18
95	6960038	CH. WRENCH (Not Shown)

CUTTERHEAD & DRIVE AREA

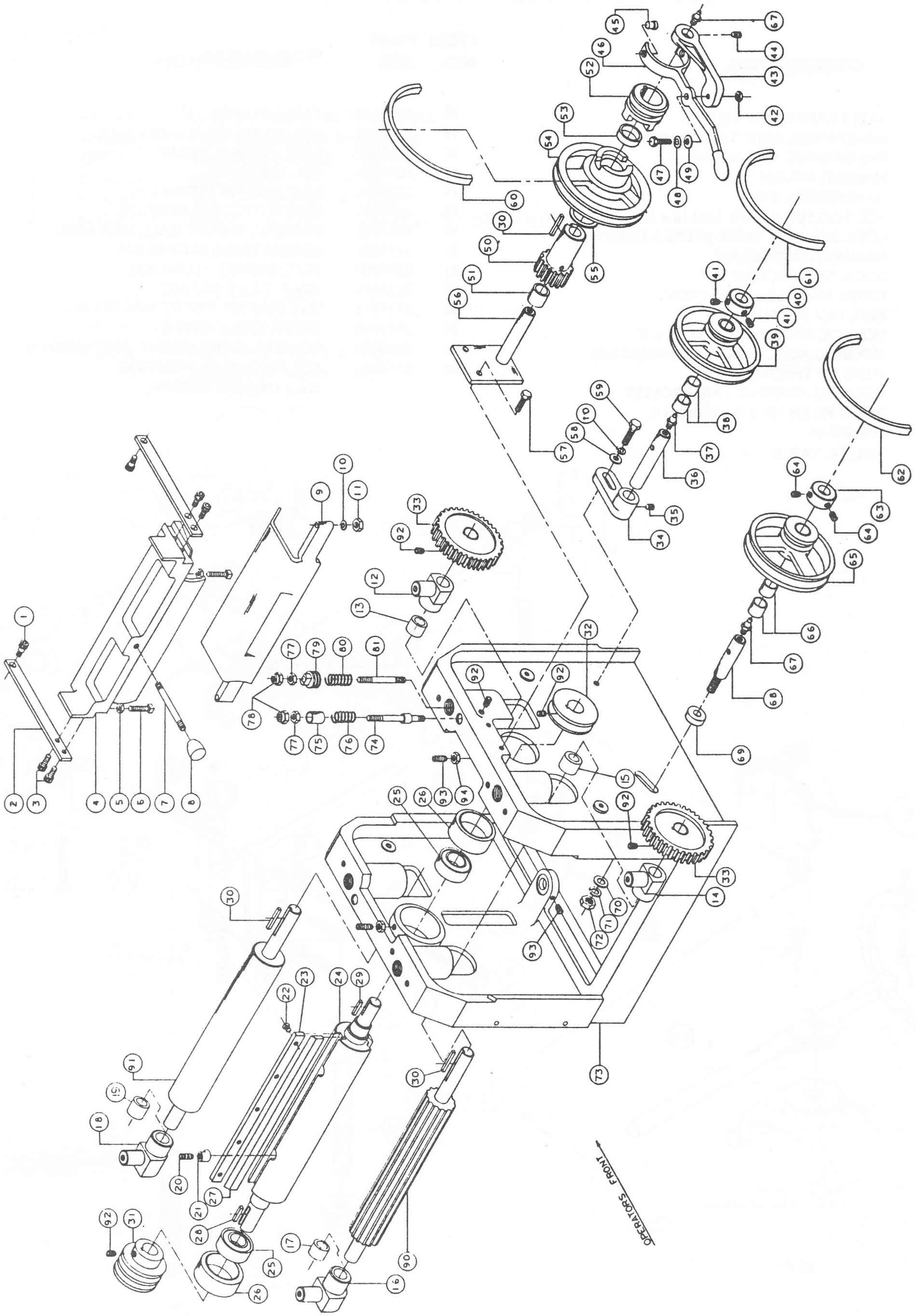
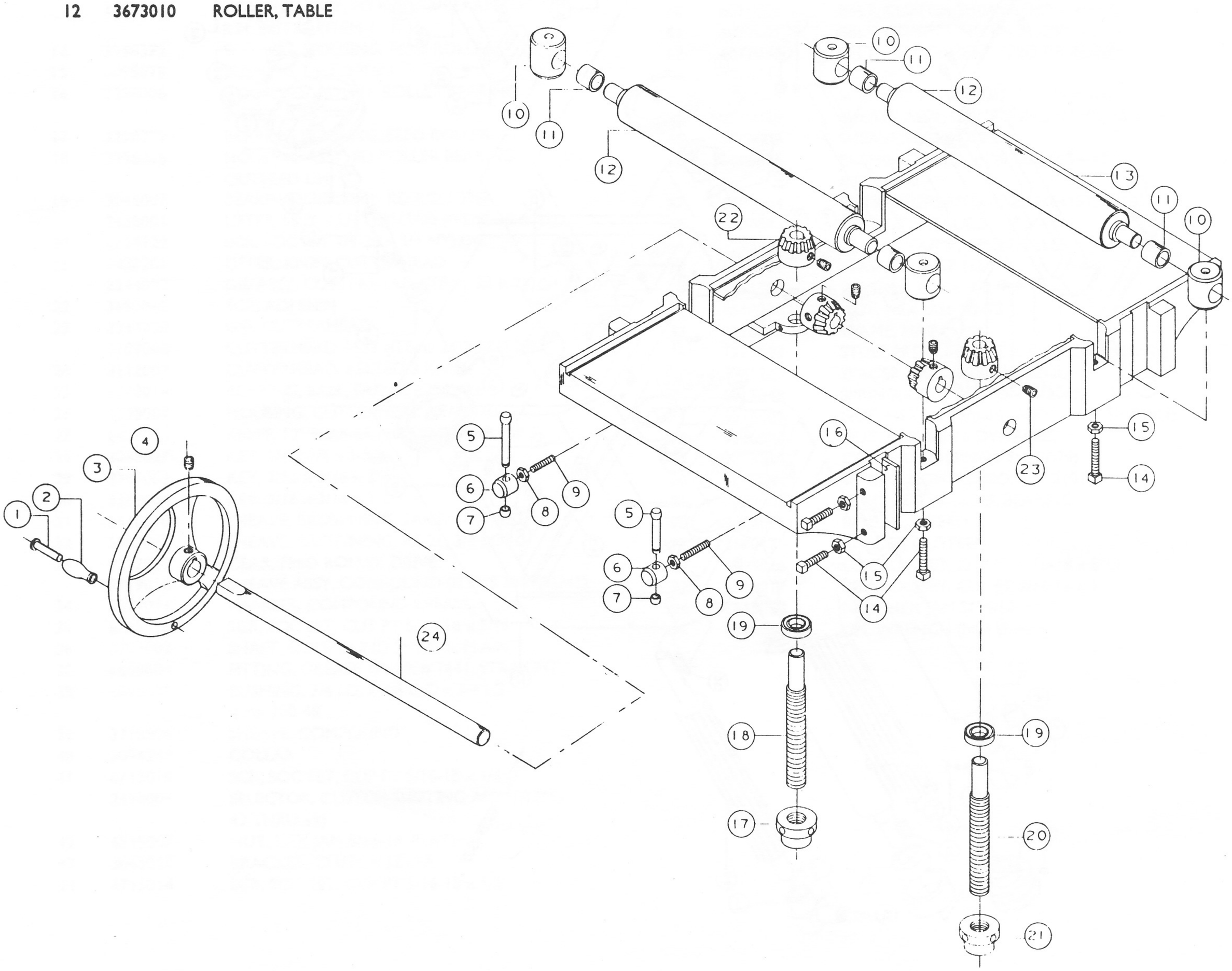


TABLE RAISING ASSY.

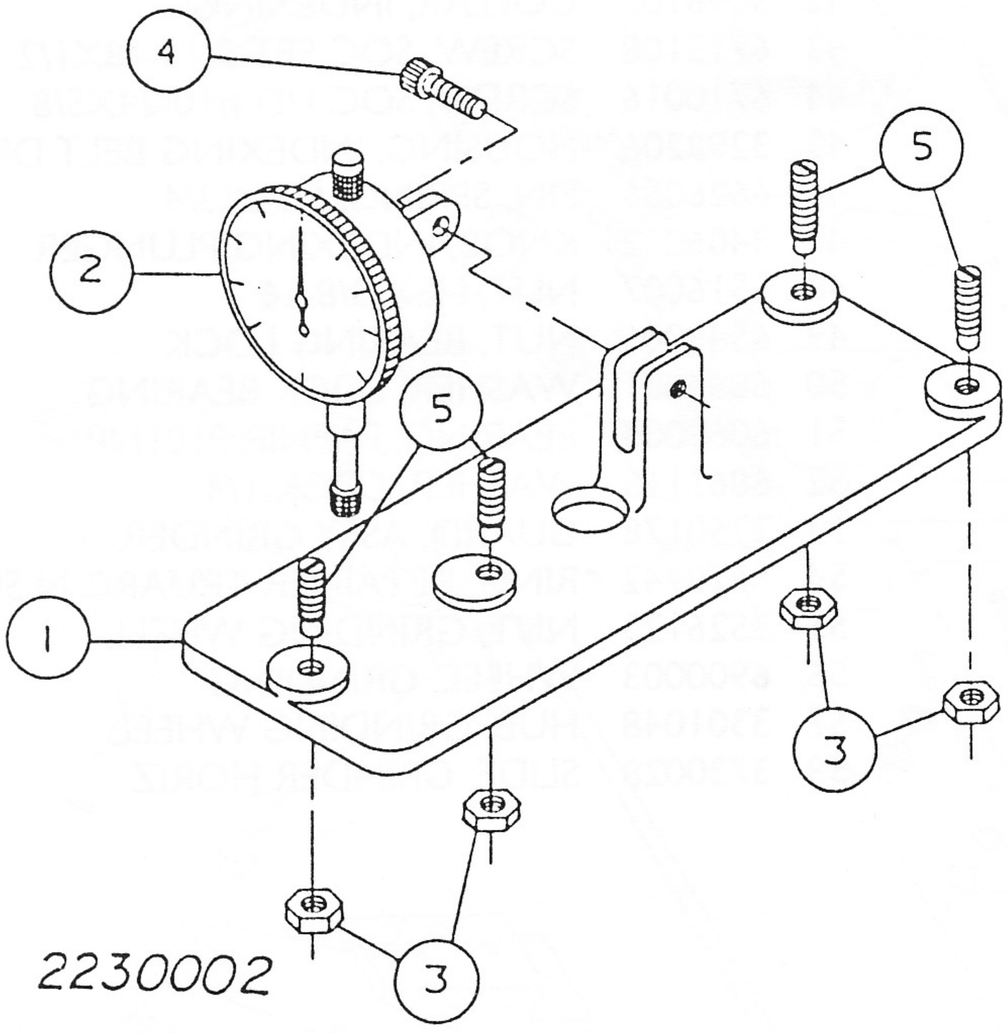
ITEM NO.	PART NO.	DESCRIPTION
	0340120	TABLE RAISING ASSEMBLY
	2271022	HANDWHEEL ASSY, TABLE RAISE (ITEMS1THRU4)
1	6624006	PIN, GROOVE, FLAT HD 1/4 x 3
2	3268201	HANDLE, NYLON
3	3271040	HANDWHEEL, 8 DIA
4	6715016	SCR, SOC SET, CUP PT 5/16-18 x 5/16
	2695012	LOCK SCR ASSY, TABLE (ITEMS 5 THRU 9)
5	3268002	HANDLE, LOCK SCREW
6	3448003	LOCK, TABLE SCREW
7	3406016	KNOB, HANDLE, LOCKSCREW
8	6515007	NUT, HEX JAM 5/16-18
9	6715137	SCR, SOC SET, FLAT PT 5/16-18 x 2"
	2298017	HOUSING ASSY., TABLE ROLLERBEARING ITEMS (10 THRU11)
10	3298006	HOUSING, BEARING, TABLE ROLLER
11	6095023	BUSHING, 5/8 I.D. x 3/4 O.D. x 1 L #PS 600-64
12	3673010	ROLLER, TABLE
13	3797049	TABLE, PLANER, 12"
14	6715093	SCR, SQ HD SET 5/16-18 x 1-1/2
15	6515007	NUT, HEX JAM 5/16-18
16	3244021	GIB, TABLE ADJ
17	3529006	NUT, RAISING SCREW L.H.
18	3691002	SCREW, TABLE RAISING L.H.
19	6064001	BEARING, THRUST, BALL, NICE #605
20	3691001	SCREW, TABLE RAISING R.H.
21	3529007	NUT, RAISING SCREW R.H.
22	3237094	GEAR, TABLE RAISING
23	6715016	SCR, SOC SET, CUP PT 5/16-18 x 5/16
24	3701048	SHAFT, TABLE RAISING
25	3604010	POINTER, TABLE HEIGHT (NOT SHOWN)
26	6746001	SCR, PAN HD SELF-TAPPING # 6 x 1/4 (NOT SHOWN)



GAUGES

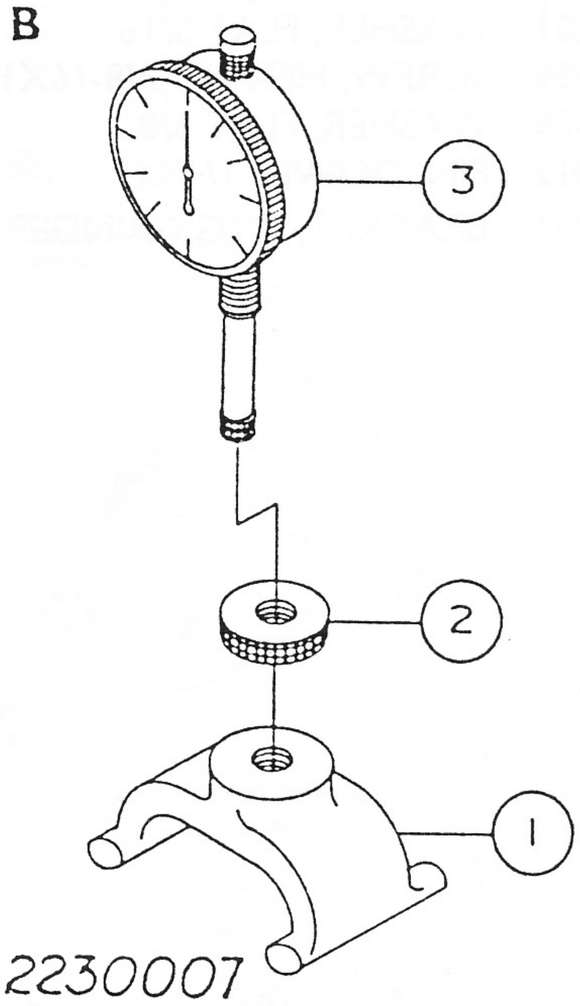
ITEM NO.	PART NO.	DESCRIPTION
A	**230002**	**GAUGE, BED AND FEED ROLL**
1	3042031	BASE, TABLE LEVER INDICATOR
2	6391001	INDICATOR, TABLE LEVER
3	3528003	NUT, HEX JAM 3/8 - 24 UNF
4	6714018	SCR, SOC HD CAP 1/4-20 x 3/4
5	6715171	SCR, SET SLOTTED HEADLESS, CUP PT 5/16-18 x 1-1/4
B	**2230007**	**GAUGE, CUTTERHEAD**
1	3042340	BASE, INDICATOR
2	3528003	NUT, KNURLED 3/8-24UNF
3	6391002	INDICATOR, KNIFE LEVEL

A



2230002

B

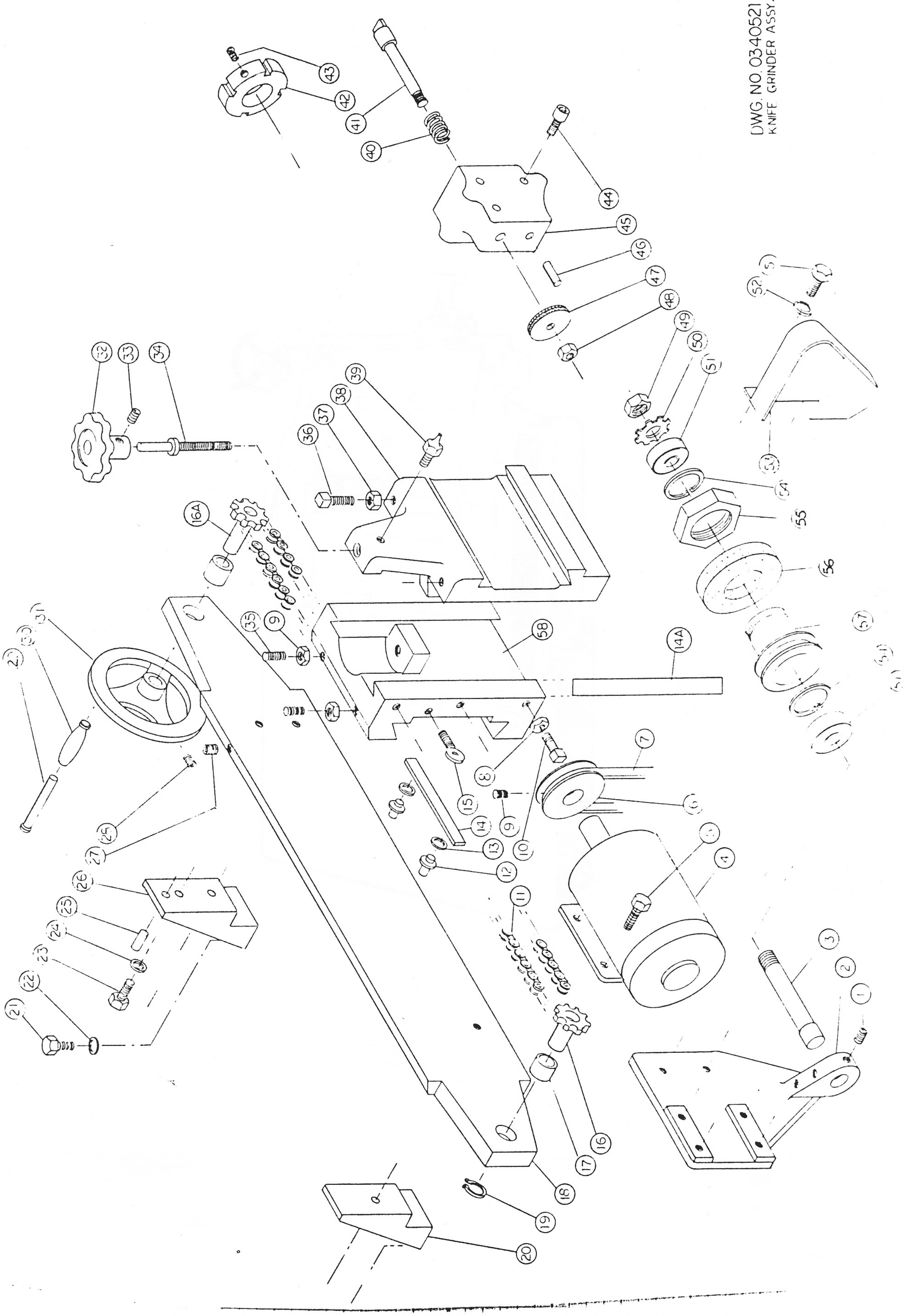


2230007

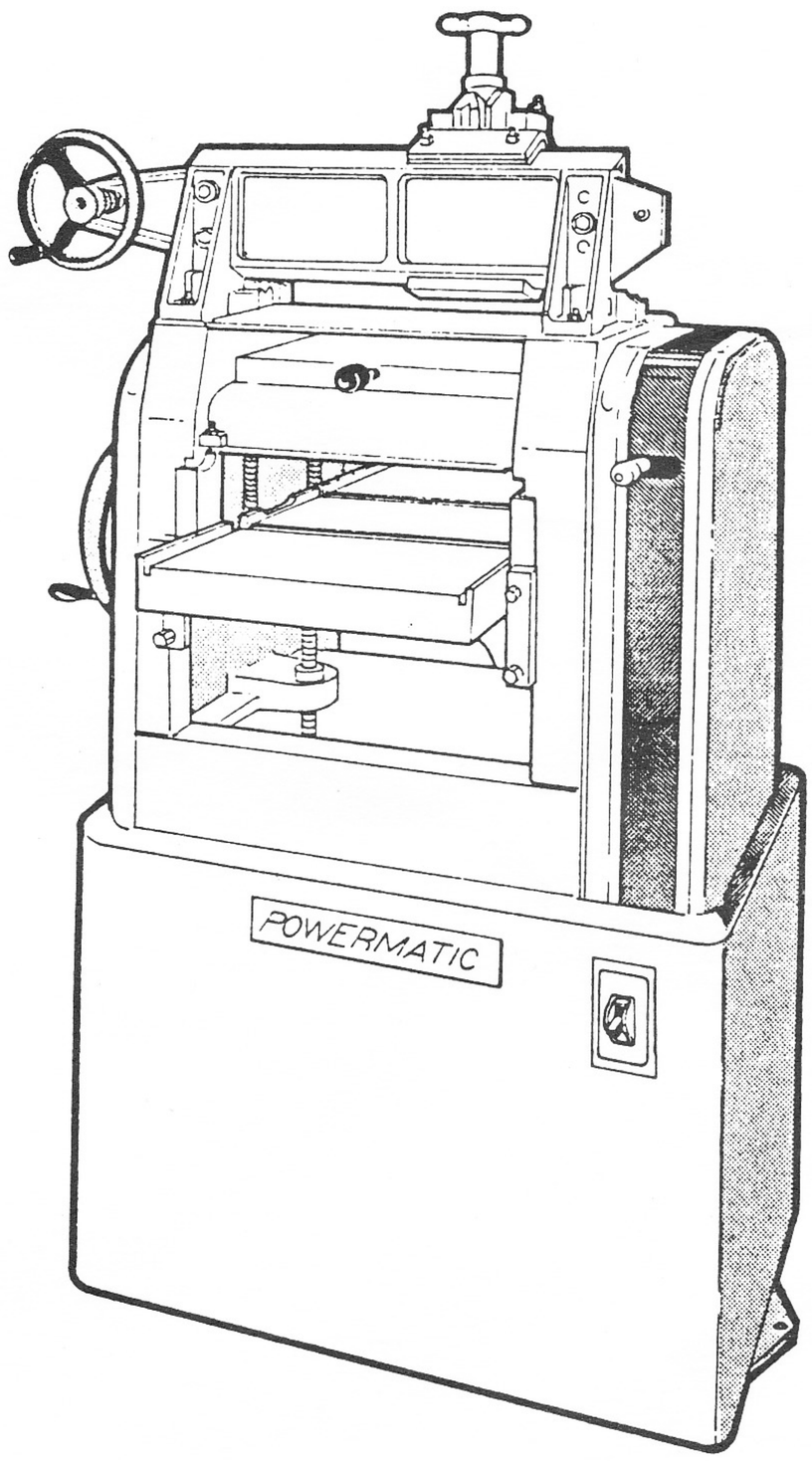
KNIFE GRINDING ASSY. (OPTIONAL)

ITEM No.	PART No.	DESCRIPTION
	2258010	KNIFE GRINDING ASSY.
	2258013	KIT, KNIFE GRINDER ASSY.
		ITEMS (1 THRU 7) and (49 THRU 57)
1	6715014	SCREW, SOC SET 5/16-18X1/2
2	3063486	BRACKET, MTG KNIFE GRINDER
3	3700128	SPINDLE, GRINDER
4	6473301	MOTOR, 1/3 HP 1Ph.
5	6714127	SCREW, HEX HD 1/2-20X1/2
6	3716040	SHEAVE
7	6077180	BELT, 5M650
8	6514008	NUT, HEX JAM 1/4-20 (ZINC PLATED)
9	6714004	SCREW, SOC SET 1/4-20X1
10	6714072	SCREW, SQ HD 1/4-20X1
11	6114048	CHAIN, ROLLER #25
12	3601202	PLUNGER, CROSS FEED SLIDE SHIM
13	6813071	WASHER, BEVEL 11/16 X .382X.0275
14	3244008	GIB, HORIZ SLIDE
14A	3244007	GIB, VERT SLIDE
15	3689046	SCREW, TENSION 10/24
16	2753026	SPROCKET, ASSY
16A	2753027	SPROCKET, ASSY
17	6095044	BUSHING
18	3044105	BAR, GRINDER
19	6670018	RING, RETAINER 5100-50
20	3064292	BRACKET, MTG GRINDER RH
21	6715032	SCREW. JEX JD 5/16-18X1
22	6861201	WASHER, FLAT 5/16
23	6716039	SCREW, HEX HD 3/8-16X1-1/4
24	6861309	WASHER, FLAT 3/8
25	6623012	PIN, DOWEL 1/4X1"
26	3064291	BRACKET, MTG GRINDER LH
27	6710067	SCREW, SOC SET #10-24X1/2
28	6715016	SCREW, SOC SET 5/15-18X5/16
29	6624006	PIN, GROOVE 1/4X3
30	3268201	HANDLE, NYLON MACH
31	3271053	HANDWHEEL 7" DIA
32	3271007	HANDWHEEL VERT FEED
33	6715013	SCREW, SOC SET 5/16-18X3/8
34	3690214	SCREW, VERT FEED
35	6714139	SCREW, SOC SET C. PT. 1/4-20X5/8
36	6715097	SCREW, SQ HD 5/16-18X1-1/4
37	6515007	NUT, HEX JAM 5/16-18
38	3730009	SLIDE, GRINDER (VERT.)
39	6609004	FITTING, GREASE 1/4-28 NPT ST
40	6813073	SPRING, COMP .600 O.D.X.556
41	3601031	PLUNGER, INDEXING
42	3096103	COLLAR, INDEXING
43	6715108	SCREW, SOC SET 5/16-18X1/2
44	6710016	SCREW, SOC HD #10-24X5/8
45	3298206	HOUSING, INDEXING BELT DRIVE
46	6626056	PIN, SPRING, 5/32X3/4
47	3406052	KNOB, INDEXING PLUNGER
48	6516007	NUT, HEX 3/8-16
49	6549001	NUT, BEARING LOCK
50	6864001	WASHER, LOCK BEARING
51	6060003	BEARING, FAFNIR 9101NP
52	6861115	WASHER, LOCK 1/4
53	2250178	GUARD, ASSY GRINDER
54	6670142	RING, RETAINER TRUARC N 5000
55	3526125	NUT, GRINDING WHEEL
56	6900003	WHEEL, GRINDING
57	3301048	HUB, GRINDING WHEEL
58	3730028	SLIDE, GRINDER HORIZ

OPTIONAL KNIFE GRINDING ASSY.



NOTES


POWERMATIC

NOTES

POWERMATIC®
McMINNVILLE, TN 37110

© 1992 POWERMATIC, *a division of DeVlieg-Bullard, Inc.*
ALL RIGHTS RESERVED

JAN.